

A FLORA OF THE CHROME AND MANGANESE ORE PILES AT CANTON,
IN THE PORT OF BALTIMORE, MARYLAND AND AT
NEWPORT NEWS, VIRGINIA, WITH DESCRIPTIONS
OF GENERA AND SPECIES NEW TO THE FLORA OF
EASTERN UNITED STATES

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Seaports and industrial areas along our seacoasts have always been welcome havens for the plant waifs that reach our shores by ship. Wool-wastes, ballast piles, ore piles, coal piles, lumber yards and just docks all afforded good conditions for foreign plants to get their start here in a new home. One only needs to check the Eighth Edition of Gray's Manual for the species naturalized to be well aware of the large number of weeds which are common with us today, which were introduced usually innocently 50 to 100 years ago.

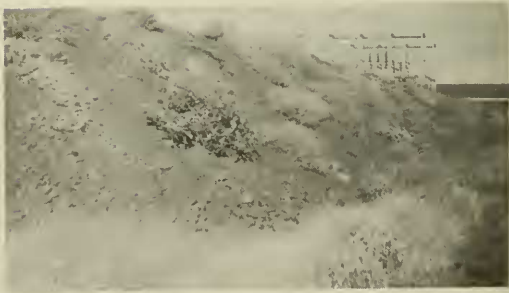
The Port of Newport News, Virginia and the Port of Baltimore, Maryland, have been the sites for ships for a long time. Recently both ports have been the unloading stations for ores of various kinds, as well as for coal, oyster-shells, gypsum, and oil. With the huge steel mills at Sparrows Point not far from the Port of Baltimore, Canton soon became the unloading ground for chrome ore, manganese ore and even iron ore. For at least twenty years Canton has been a temporary unloading ground for ores on the move.

As early as the 1890's ballast was dumped at Canton and other areas along the Port of Baltimore. Dr. C.C.Plitt of Baltimore made many collections of the adventive weeds in Canton from 1900 to 1906. Some of these plants have been recorded in the "Extracts from the Journal of C.C.Plitt".* Most of the herbarium specimens mentioned here and many others collected by Dr. Plitt at Canton are in the Reed Herbarium.

Other areas in the Port of Baltimore where ballast has been dumped in the past are Port Covington, Dundalk, Curtis Bay, Brooklyn, Westport, Locust Point, and Fairfield. The present study is mainly concerned with the plants that have been found growing on the ore piles in the Canton area, although some species from the other areas will be included.

The areas studied in Virginia have been in the Port of Newport News, the coal piles and wastes immediately adjacent to the docks and the chrome, manganese, and iron ore piles about seven miles inland along the C. & O. Railroad, where an ore refining company has stocked huge piles of these ores.

* Fessenden, G.R. Plants of Baltimore Ballast Grounds. Wild Flower, 32(3): 44-47. 1956.



Views of chrome ore piles at Canton, Maryland

Nearly 550 species of flowering plants have been collected on these mineral ore piles in Maryland and Virginia, about 80 per cent of which are new to either the Eighth Edition of Gray's Manual or Gleason's Illustrated Flora. Many of these species have been collected in these areas year after year since 1953 when this study started. As these ores lie in piles awaiting to be shipped elsewhere, the seeds germinate and the plants most often reach maturity in our region and set seed. Some of these plants have continued to seed themselves here and may be found every year on undisturbed piles. Some have been carried various distances and already have become pests.

Those genera and species which are entirely new to our flora will be listed and described below. Other species which are extensions of known ranges will be mentioned. Finally, other known species which are found in these regions will be merely mentioned. A few species found in other areas in Maryland and Virginia will mentioned also. All specimens are in the Reed Herbarium, unless otherwise noted. Some species have been deposited in the herbarium of the United States National Museum in Washington, D.C.

ACANTHACEAE

1. Andrographis echinoides Nees. Tropical India, in the drier districts from the Punjab and Chota Nagpore to Ceylon. Virginia: Newport News, on chrome ore piles. Nov. 1959. Reed 45902 (US). Det. by E.C. Leonard. Description of genus and species, see Reed, Castanea, 26: 128. 1961.

AIZOACEAE

2. Mollugo gracillima Ands. Maryland: Canton. Oct. 1954. Reed 35232; Oct. 1958. Reed 41349. Native of Galapagos Isl. (Many sheets in US); also from Uganda, Africa, marked (on US sheets), "Introduced, roadsides, Dümmer 2712". This species resembles M. verticillata, to which it has been reduced by Hook. fil. and Jackson (Index Kew, 2: 253), from which it differs by having smaller flowers, a shorter capsule relative to the blunter sepals, and in its minute black, tessellated, not ribbed seeds.

3. Mollugo nudicaulis Lam. Maryland: Canton. July 1958. Reed 40892. Native of the Old World Tropics; also in the West Indies. A glabrous herb, 7-30 cm. high; leaves all basal, in an erect-spreading tuft, spatulate or obovate, 1.5-5 cm. long, 6-16 mm. broad, rounded at the apex, tapering at the base into the petiole; cymes long-peduncled, the peduncles slender, somewhat angled and grooved; flowers slender-pedicelled; calyx-lobes elliptic, about 2 mm. long, 0.8-1 mm. broad; capsule ellipsoid, 2-2.5 mm. long; seeds reniform, 0.5-0.6 mm. long, black, granulate.

4. Mollugo verticillata L. Maryland: Canton, a common weed on the chrome ore piles.

5. Trianthema portulacastrum L. Maryland: Canton, on chrome ore piles. Sept. 1953. Reed 32722.

ALISMATACEAE

6. Sagittaria latifolia Willd. Maryland: Canton, in ditches near the oyster shell piles. July 1958. Reed 40879.

AMARANTHACEAE

The following new species and new genera of this family which have been found in these regions have been discussed by the author in Castanea 26: 123-127. 1961. Records and specimens are cited there

7. Achyranthes aspera L.
8. Alternanthera ficoidea (L.) R.Br.
9. Alternanthera repens (L.) Kuntze
10. Alternanthera sessilis R.Br.
11. Guilleminea densa (Willd.) Moq.
12. Hermbstaedtia elegans Moq.
13. Amaranthus palmeri Wats.
14. Amaranthus cruentus L.
15. Celosia argentea L.
16. Froelichia gracilis (Hook.) Moq. Also see Reed, Castanea, 27: 59-61. 1962. Additional records: Maryland, Canton, on manganese ore piles, Newkirk Street. Aug. 9, 1961. Reed 52145; June 10, 1963. Reed 62407; Aug. 20, 1963. Reed 65410 (US).
17. Gomphrena celosioides Mart.
18. Gomphrena dispersa Standl. From ore piles, Newport News,
19. Gomphrena globosa L. /also.
20. Alternanthera achyrantha R.Br. Newport News only.
21. Amaranthus spinosus L.
22. Amaranthus albus L.
23. Amaranthus graecizans L.
24. Amaranthus retroflexus L.
25. Amaranthus deflexus L.
26. Amaranthus lividus L. Adventive from the Tropics; from Mass. and New York south to Maryland and the District of Columbia. In Maryland this has become a genuine pesty weed, especially in spinach fields. Maryland: Baltimore Co., from Sparrows Point to Essex, Chase, Loreley and White Marsh, and then to the Harford Co. line. In the District of Columbia the author collected it in the outdoor flower beds near the foot of the Capitol. Sept. 25, 1961. Reed 53271 (US).

ANACARDIACEAE

27. Rhus copallina L. Maryland: Canton, common in thickets and along railroad tracks. Oct. 4, 1957. Reed 39558.
28. Rhus radicans L. Maryland: Canton. Oct. 4, 1957. (obs.); April 24, 1958. Reed 40703. Common in thickets and in wastes on ground.

29. Rhus typhina L. Maryland: Canton, along Newkirk St., several very large trees, about 25 ft. tall, with trunks 4-6 in. in diameter.

APOCYNACEAE

30. Apocynum cannabinum L. Maryland: Canton, a common weed throughout the area. Sept. 27, 1953. Reed 32725.

ARISTOLOCHIACEAE

31. Aristolochia clematitis L. Introduced from Europe; local from New York to Ohio and Maryland. Maryland: Canton. May 22, 1900; May 16, 1903; July 6, 1906. All collected by C.C.Plitt. (Colony entirely destroyed after the last date).

ASCLEPIDACEAE

32. Asclepias incarnata L. var. pulchra (Ehrh.) Pers. Common on wastes between the chrome ore piles. July 30, 1959. Reed 43842. Canton, Maryland.

33. Asclepias syriaca L. Common throughout the area. Canton, wastes along Newkirk St. Aug. 18, 1959. Reed 44388.

BERBERIDACEAE

34. Podophyllum peltatum L. In several patches along ditches in Canton near the gypsum piles along Newkirk St. April 24, 1958. Reed 40707.

BORAGINACEAE

Several new species in this family have been found in the Canton area. Most of these have survived the winters and have been found every year since 1953. Some have persisted since 1901, when they were collected by C.C.Plitt.

35. Anchusa italica Retz. Native of the Mediterranean region and the Near East; N. Africa, France, Corsica, Europe meridionale et centrale. Maryland: Canton, Newkirk St., chrome ore piles. June 29, 1956. Reed 38824. Plant 30-80 cm. tall, branched; leaves oblong, lanceolate to ovato-lanceolate, entire, the lower ones petiolate, the upper ones sessile; raceme paniculate; flowers blue or rose, lobes of calyx divided near the base, acute, shorter than the tube of the corolla, spreading in fruit; corolla 10-13 mm. long, in a tube; nutlets oblong, wrinkled, granulate.

36. Echium italicum L. Native of Turkestan, Asia Minor, and the Mediterranean region. Maryland: Canton, Newkirk St., on chrome ore piles. June 29, 1955. Reed 38818. Plant biennial, 30-80 cm. tall, stem robust, branched to form a pyramidal panicle; leaves hispid, the radical ones forming a rosette, elliptical-lanceolate, one-nerved, the cauline leaves sessile; flowers red or rose, quite small; calyx very hispid, the lobes lanceolate; corolla 10-14 mm. long, the tube long, the limbs spreading and quite regular; the

stamens as long as the nearly regular corolla; flowers in lateral spikes; nutlets strongly tuberculate, slightly ridged.

37. Echium vulgare L. Maryland: Canton, along Clinton St. in wastes. Oct. 18, 1957. Reed 39416. Common in between the chrome ore piles.

38. Heliotropium curassavicum L. Washington south to southern California and Mexico, east to Delaware and Florida; casually on ballast northward; widely distributed on all continents. Maryland: Canton, Newkirk St., chrome ore piles. June 22, 1954. Reed 33451.

39. Heliotropium europeum L. Naturalized from Europe; from Florida and Alabama north to New Jersey, and locally to Massachusetts. Maryland: common on ballast and on the chrome ore piles of Canton since 1901. Ballast Grounds. June 19, 1901. C.C. Plitt (Not mentioned in Plitt's Journal for this date, acc. to Fessenden, see Wild Flower 32: 45. 1956), in Reed Herb. No. 26612; same locality. June 18, 1905. Plitt, in Reed Herb. No. 26611; Canton, on chrome ore piles near Newkirk St. Sept. 27, 1953. Reed 32673, 32812 and 32668; Oct. 12, 1953. Reed 32883; June 22, 1954. Reed 33449; July 22, 1954. Reed 34032; Sept. 1, 1954. Reed 34393; Sept. 30, 1955. Reed 38240; June 29, 1956. Reed 38825; Oct. 17, 1956. Reed 38243; Sept. 20, 1957. Reed 39317; Clinton St. on wastes. Oct. 4, 1957. Reed 39592; on manganese piles, Newkirk St. July 15, 1960. Reed 46738; on pumice piles (from Italy). Aug. 20, 1963. Reed 65424 (US).

40. Heliotropium indicum L. Widely distributed in the Tropics of both hemispheres, probably of American origin. Maryland: Canton, Newkirk St., on chrome ore piles. July 17, 1958. Reed 41008 and 40889; Sept. 24, 1958. Reed 41238; July 9, 1959 (frequent). Reed 43618.

41. Heliotropium procumbens Mill. Native of tropical and subtropical America, Costa Rica. Maryland: Canton, Sept. 19, 1958. Reed 41327. Annual, sparsely or densely appressed-pilose, usually grayish, the stems erect or decumbent, 10-50 cm. long, much-branched; leaves elliptic, obovate, or broadly oblanceolate, 1-4 cm long, obtuse or rounded at the apex, petiolate; flowers small, white, in slender, scorpioid, mostly geminate or ternate, bractless racemes; corolla 5 mm. long or less; fruit depressed-globose, 4-lobate, strigose, the nutlets 0.5-1 mm. long.

42. Lithospermum arvense L. Naturalized from Europe; a common weed from Nova Scotia to British Columbia, south to Florida, Louisiana and California. Maryland: Canton, on wastes. April 24, 1958. Reed 40699. Throughout Maryland in waste places and fields.

CANNABINACEAE

43. Cannabis sativa L. Adventive from Asia; Quebec to British Columbia and southward. Maryland: Canton. May 1903. Plitt, in Reed Herb.; Sept. 1905. Plitt, in Reed Herb.

44. Humulus japonica Sieb. & Zucc. Introduced and naturalized from Asia; New England to Michigan, south to Virginia and Missouri. Maryland: Canton, just south of Highlandtown. Sept. 1957. Reed 39387; Canton, near chrome ore piles. Oct. 1957. Reed 39415.

45. Humulus lupulus L. Native from New Brunswick to Montana, south to New England, northern Pennsylvania, West Virginia, eastern Kentucky, Ohio, Indiana, Illinois, Missouri, Kansas and New Mexico; also introduced from Europe; Maryland and Delaware. Maryland: Canton, plentiful. April 1958. Reed 40692; Sept. 1958. Reed 41316 (fr.).

CAPPARIDACEAE

46. Cleome viscosa L. Naturalized from the Old World Tropics; Bermuda and West Indies. Maryland: Canton, Newkirk St., on chrome ore piles. July 17, 1958. Reed 41010; July 19, 1958. Reed 40887; Sept. 6, 1958. Reed 41303; Sept. 19, 1958. Reed 41319; July 30, 1959. Reed 43834. Virginia: Newport News, on chrome ore piles. Aug. 7, 1959. Reed 44049; Nov. 15, 1959. Reed 45887. An erect viscid-glandular annual, 3-9 dm. tall; leaves digitately 3- or 5-foliate; leaflets obovate, oblanceolate or elliptic, 10-17 cm. long, 0.7-3 cm. broad, acute to acuminate, rarely obtuse at the apex, often inequilateral at the base, the margin glandular-ciliate; flowers solitary in the axils of the upper leaves; sepals oblong-lanceolate or lanceolate, 6.5-8 mm. long; petals yellow, obovate, about 1 cm. long; stamens 12-20, free; capsule cylindrical, 5.5-10 cm. long, 4-4.5 mm. thick, tapering to the apex, striate, viscid-glandular; seeds about 1.8 mm. in diameter, flattened, transversely ridged.

CAPRIFOLIACEAE

47. Sambucus canadensis L. Rather common in wet ditches in Canton, forming thickets. Oct. 4, 1957. Reed 39579.

48. Viburnum prunifolium L. Forming fencerows in wastes along Clinton St., Canton. Oct. 4, 1957. Reed 39553.

49. Lonicera japonica Thunb. Naturalized from Asia. Canton, common throughout the wastes, forming thickets over trees and bushes. Some patches appear to be var. chinensis (P.W.Wats.) Baker, with the branchlets and leaves purple and glabrous, and with a carmine corolla.

CARYOPHYLLACEAE

50. Agrostemma githago L. Maryland: Canton, Newkirk St., on chrome ore piles. May 24, 1954. Reed 33348 (flowers lavender).

Herniaria L. Burstwort. Sepals 5; staminoides small or none; stamens 2-5; style short, deeply bifid; capsule enclosed in the calyx and containing one seed. -- Small procumbent herbs, with small green flowers; stipules minute, scarious.

51. Herniaria cinerea DC. Introduced from southern Europe; also known from southern Arizona and California. Maryland: Canton, on chrome ore piles. June 10, 1957. Reed 38808. Small erect annual herbs, 2.5-7 cm. tall, sometimes forming mats 7-30 cm. in diameter; branches bearing 2-ranked branchlets; leaves opposite with minute papery stipules, the blades oblong and about 0.5 cm. long; flowers very small, green, crowned in clusters in all the leaf axils; 4-5 sepals, united at the base, usually no petals; 2-5 stamens, inserted on the calyx base, and a short 2-cleft or 2-parted style; fruit an achene, enclosed by the calyx; seeds shining black, minute double-convex lens-shaped, rimmed by a thin margin.

52. Herniaria glabra L. Native of central and southern Europe. Maryland: Canton, on chrome ore piles. Oct. 28, 1958. Reed 41348. Stems very branching, slender, prostrate, 5-10 cm. long, forming mats on the ground, glabrous or clothed with short and somewhat deflexed hairs; root perennial; leaves very glabrous or ciliate at the base, the inferior ones opposite, the upper one alternate and opposite the floral branches, oblong to elliptic, obtuse, entire, attenuate at the base; stipules ciliate; flowers in axillary clusters, coalescing on the lateral branches into a somewhat leafy spike; calyx nearly hairless, the divisions obtuse; seeds black, lustrous.

53. Saponaria vaccaria L. (Vaccaria segetalis (Neck.) Garcke). Adventive from Europe. Maryland: Canton, Newkirk St., on chrome ore piles. June 22, 1954. Reed 33371; Oct. 28, 1958. Reed 41346; Nov. 23, 1958. Reed 41728; July 9, 1959. Reed 43629; on manganese ore piles. July 9, 1959. Reed 43653; July 15, 1960. Reed 46732.

54. Saponaria porrigens L. Native of Armenia and The Levant. Maryland: Canton, on chrome ore piles. June 1954. Reed 33357 (US). Stem erect; branches divaricating, hairy, viscid; flowers axillary, on long stalks; peduncles filiform; calyx terete; fruit egg-shaped, drooping; leaves lanceolate, connate; petals flesh-colored; stamens white.

55. Silene cserei Baumb. Native of Europe. Maryland: Canton, on chrome ore piles. May 24, 1960. Reed 46327. Leaves broader (2-4 cm. wide) than in S. cucubalus Wibel (1-3 cm. wide); calyx but little inflated and the veins not conspicuously reticulate.

Also found on the chrome ore piles in the Canton area are the following species which are fairly common.

56. Cerastium viscosum L.
57. Cerastium vulgatum L.
58. Silene antirrhina L.
59. Silene noctiflora L.
60. Stellaria media (L.) Cyrillo

CELASTRACEAE

61. Celastrus scandens L. Maryland: Canton, frequent climbing over thickets. Oct. 4, 1957. Reed 39559.

CHENOPODIACEAE

Atriplex patula L. is represented by the following varieties in the Canton area, on chrome ore piles, in wastes and along the railroads.

62. Atriplex patula L. var. hastata (L.) Gray. Native of Eurasia; nat. from Newfoundland to British Columbia, and south to New England, South Carolina, Ohio, Indiana, Illinois and Missouri. Many collections from Canton, Dundalk and Newport News areas.

63. Atriplex patula L. var. littoralis (L.) Gray. Prince Edwards Island to Ontario, south to New Jersey, Pennsylvania, Indiana and Wisconsin. Maryland: Canton. Oct. 1957. Reed 39568.

64. Atriplex patula L. var. japonica Levl. Native of Japan and the Orient. Maryland: Canton, on chrome ore piles, forming huge mats up to 10 ft. in diameter; Oct. 28, 1958. Reed 41344; Nov. 4, 1958. Reed 41361. This variety has linear to broadly linear leaves, similar to those of var. littoralis; but the fruits are bracteate, the bracts being from 1-1.5 cm. broad and long, similar to var. bracteata Westlund. Plants very large, woody and very branched, the bark reddish, striated with green; the leaves up straight, glabrous, entire, without widening at the base, obtuse, petiolate, the petioles winged; fruits with valve-like bracts, 1-1.5 cm. long, disposed in glomerules of 3-4, forming terminal spikes and axillary ones as well.

65. Atriplex nitens Schkuhr. Native of central Europe. Maryland: Canton, Newkirk St., on chrome ore piles. Sept. 19, 1958. Reed 41322; Baltimore County, Cub Hill in fields. May 28, 1959. Reed 43122; Aug. 3, 1959. Reed 45591. Stems herbaceous to nearly woody, up to 1.5 m. tall, erect branched; the leaves triangular, acuminate greenish shining above, glaucous beneath, up to 12 cm. wide and 10 cm. long, margins dentate, the lower ones cordate-hastate, the upper ones deltoid and somewhat auricled, the uppermost ones lanceolate; perianth of fruit ovate-acuminate, entire, smooth on the back, thin and finely reticulate.

66. Atriplex rosea L. Adventive from Eurasia; New York to Wisconsin and southward; California. Maryland: Canton. Sept. 1907. Plitt, in Reed Herb.(No. 17628).

67. Atriplex thornberi (Jones) Standl. Native of southern Arizona. Maryland: Canton, collected many times on the chrome ore piles. Sept. 1953. Reed 32754, 32842, 32770, 32715 and 32661; Oct. 12, 1953. Reed 32881; June 22, 1954. Reed 33437. (A. elegans var. thornberi Jones). Annual or perennial, 2-5 dm. tall, much-branched, the branches slender or stout, obtusely angled, erect or ascending, coarsely furfuraceous or glabrate in age; the leaves numerous, alternate, sessile or subsessile, the blades oblong to narrowly oblong or lanceolate, 7-20 mm. long, 2.5-6 mm. wide, obtuse or acute at the apex, the upper ones mucronate, crenate or attenuate at base, the lower ones remotely repand-dentate, the upper entire, rather thin and whitish-furfuraceous below, furfuraceous or glabrate above; flowers monoecious, disposed in small axillary clusters; the fruiting bracts short-pedicellate, orbicular, 3 mm. long, the margins deeply laciniate-dentate nearly to the base, the sides each having 2 laciniate crests; the seeds 1 mm. long, pale brown; the radicle superior.

Chenopodium L. is represented by several species which have been collected many times since 1953 on the chrome ore piles and in the nearby wastes. Most common are the following three species.

68. Chenopodium ambrosioides L.

69. Chenopodium botrys L.

70. Chenopodium album L.

71. Chenopodium viride L. Native of Russia, northern and western Asia (Kashmir to Nepal); and Europe. Maryland: Canton, on manganese ore piles. July 17, 1958. Reed 41004 and 41006; Sept. 6, 1958. Reed 41300; Sept. 19, 1958. Reed 41342; July 9, 1959. Reed 43650 and 43656. Virginia: Newport News, on chrome ore piles. Aug. 1959. Reed 44063 and 44042. Entire plant usually mealy; leaves long stalked, broadly triangular, upper ones lobed, about 3 cm. each way, margins sinuate or irregularly lobed; utricle only partially covered by the persistent teeth; seeds minutely dotted.

72. Chenopodium vulvaria L. Adventive from Europe; local from Quebec, Ontario and Wisconsin, south to Maryland and Indiana. Maryland: Canton, on chrome ore piles, collected many times from 1953 to 1958. The plant possesses a fetid odor which is distinctive. Sept. 27, 1953. Reed 32817; Oct. 2, 1953. Reed 32684; Sept. 30, 1955. Reed 39239 and 39227; Aug. 23, 1956. Reed 37967; Sept. 19, 1958. Reed 41324.
73. Chenopodium pagatum Reichenb. Naturalized from Europe; Quebec to Alaska and southward. Maryland: Canton, on chrome ore piles, Newkirk St. Sept. 27, 1953. Reed 32815; Sept. 30, 1955. Reed 38235.
74. Chenopodium carnosulum DC. Native of Mexico. Maryland: Canton, on chrome ore piles. Sept. 1955. Reed 38214, 38216.
75. Chenopodium farinosum (S.Wats.) Standl. (Ch. macrospermum Hook. fil. var. halophilum (Phil.) Standl.; Ch. macrospermum ssp. halophilum (Phil.) Aellen forma farinosum (Wats.) Aellen). Native of South America (Argentina north to Bolivia, Mexico); California and North Carolina. Maryland: Canton, on chrome ore piles. Sept. 30, 1955. Reed 38242 and 38217; Nov. 10, 1953. Reed 33036; Oct. 25, 1954. Reed 35189. North Carolina: Wilmington, on ballast. (US-43945). See Aellen & Just, Amer. Midland Nat., 30: 58. 1943.
76. Chenopodium glaucum L. (incl. Ch. salinum Standl.). Adventive from Europe; Alaska to North Dakota, south to Missouri, New Mexico, Arizona and Oregon. Maryland: Canton, on chrome ore piles. July 9, 1959. Reed 43626; on manganese ore piles. July 30, 1959. Reed 43839. Annual, succulent and glabrous, or nearly so, except the densely white-mealy under-surface of the leaves; stems freely branching, decumbent or prostrate, 4-20 cm. long; leaves usually oblong, varying from lanceolate to narrowly ovate, 2-5 cm. long, sinuate-dentate, or the uppermost sometimes entire, narrowed to a short petiole; flowers in short axillary, often branched spikes; calyx lobes narrowly oblong, thin, not keeled, concealing only a small portion of the fruit; utricle dark brown; pericarp free; seed vertical in the lateral flowers, often horizontal in the terminal ones, sharp-edged, 0.6 mm. broad.
77. Polycnemum majus A.Br. Adventive from Europe; also known in Ontario. Maryland: Canton, on manganese ore piles. Aug. 1959. Reed 44376.
78. Salsola kali L. Newfoundland to Louisiana; also in Eurasia. Maryland: Canton, frequently collected on the chrome and manganese ore piles since 1953.
79. Salsola kali var. tenuifolia G.F.W.Meyer. Native of central Asia; a troublesome weed, Michigan to Missouri and westward, southward to Indiana, West Virginia and North Carolina. Maryland: Canton, on chrome ore piles, frequent. June 22, 1954. Reed 33444 and 33446; June 29, 1956. Reed 38827; Sept. 19, 1958. Reed 41326.

COMMELINACEAE

80. Commelina communis L. Common in the wastes throughout the Canton area.

81. Commelina diffusa Burm. fil. Native in pantropic and warm-temperate regions in American tropics; northward to eastern Virginia and Maryland; a casual weed north to Massachusetts, Ohio, Indiana, Illinois and eastern Kansas. Maryland: Canton, on chrome ore piles, Newkirk St. Sept. 24, 1958. Reed 41231; Oct. 14, 1958. Reed 41156; Oct. 28, 1958. Reed 41352; Nov. 4, 1958. Reed 41364; Oct. 6, 1959. Reed 45716 (seems to be spreading to many other piles).

COMPOSITAE

Many new genera and species of this family have been found on the various ore piles in the Canton area. I am indebted to the late Dr. S.F.Blake for identifying or verifying the identification of most of the species listed below.

82. Achillea millefolium L. Naturalized from Europe. A common weed throughout the wastes of Canton. Aug. 18, 1959. Reed 44352.

83. Ageratum conyzoides L. Old World tropics and subtropics; West Indies and tropical continental America. Maryland: Canton, on chrome ore piles. Sept. and Oct. 1958. Reed 41226 and 41164. Annual more or less pubescent, branched, 9 dm. high or less, the stem terete, the branches widely ascending; leaves thin, ovate, 2-8 cm. long, mostly obtuse at the apex, cuneate to subcordate at the base, crenate or crenate-dentate, the slender hirsute petioles 3 cm. long or less; corymbs compound, convex, the head several to numerous, about 6 mm. broad, many-flowered; involucre campanulate, its bracts oblong, glabrous or slightly pubescent, green with scarious margins acuminate; receptacle naked; corolla blue or white; achenes black, shining; pappus of 1-5 lanceolate scales, attenuate at the apex, sometimes very unequal in length and the shorter ones bluntish.

84. Ambrosia artemisiifolia L. A common weed throughout the wastes of Canton.

85. Ambrosia trifida L. A common weed throughout the wastes of Canton.

86. Anaphalis margaritacea (L.) C.B.Clark var. intercedens Hara Native of Japan; also from Newfoundland to Alaska, south to North Carolina, West Virginia, Ohio, Michigan, Wisconsin, Missouri, South Dakota and New Mexico. Maryland: Canton, common in waste areas.

87. Anthemis arvensis L. Naturalized from Europe; Maine to western New York and south to Georgia. Maryland: Canton, frequent on chrome and manganese ore piles.

88. Anthemis cotula L. Naturalized from Europe; Newfoundland to Alaska and southward. Maryland: Canton, Oct. 1900. Flitt.

89. Arctium minus (Hill) Bernh. Naturalized from Europe; Newfoundland to British Columbia, south to Virginia, West Virginia, Missouri, Kansas and California. Maryland: Canton, on chrome ore piles; Port Covington on wastes.
90. Artemisia annua L. Naturalized from Eurasia; Prince Edwards Island to Ontario, south to Long Island, Virginia, Alabama, Tennessee and Arkansas. Maryland: Locust Point, along RR tracks, rather frequent.
91. Artemisia ludoviciana Nutt. var. gnaphalodes (Nutt.) Torr. & Gray Native on the prairies from southern Ontario and Michigan to southern British Columbia, south to Arkansas, Oklahoma and Texas; naturalized eastward to Quebec, New England, New Jersey, Delaware and Maryland. Maryland: Canton, in large patches along RR., collected from 1958 to 1963. Virginia: Newport News, RR wastes at port. Aug. 1959. Reed 44082.
92. Artemisia scoparia W. & K. Native of central Europe (Bohemia, Austria). Maryland: Canton, on wastes. Aug. 1956. Reed 37971. Stem simple, erect; leaf bi-tripinnatifid, ovate in outline; segments of the lowest leaves linear-lanceolate, of the rest, linear; upper leaves sessile, simply pinnatifid; uppermost undivided or with a tooth at the base; outer florets with anthers; receptacle naked; auricle at base of leaf-stalk about the middle of the flowering-stem; flower broadly ovoid or subglobose, hairless.
93. Artemisia abrotanum L. Introduced from southern Europe. Virginia: Newport News, on chrome ore piles. Nov. 1959. Reed 45888.
94. Aster simplex Willd. var. ramosissimus (T. & G.) Cronq. Frequent on the wastes at Canton, Oct. 4, 1957. Reed 39565 and 39572.
95. Aster subulatus Michx. Natural range from southern Maine to Delaware and Maryland, and southern Michigan. Maryland: Canton, on chrome ore piles, Sept. 27, 1953. Reed 32662.
96. Baccharis halimifolia L. Native from Mexico and Texas to Florida, north along the coast to Massachusetts. Maryland: Canton, on wastes on chrome ore piles and gypsum piles. Oct. 25, 1954. Reed 35222; Sept. 20, 1957. Reed 39320; Oct. 4, 1957. Reed 39564 and 39586.

BAHIA Lag. Ray flowers pistillate and fertile, rays from inconspicuous to definite, or in 1 species lacking, yellow; disk flowers perfect and fertile, yellow; anthers united, not caudate at the base; achenes narrow, 4-angled; pappus of several paleae, these sometimes with the thickened midrib excurrent as an awn, or without pappus; annual or perennial herbaceous plants, with alternate or opposite leaves, these entire to variously divided or dissected; heads corymbose; involucre campanulate, hemispheric, turbinate or obconic, bracts in 2 or 3 series, herbaceous to scarious

or colored in part; receptacles mostly flat, naked or alveolate.

97. Bahia schaffneri Wats. Native of Mexico. Maryland: Canton, on chrome ore piles. Sept. 1953. Reed 32787. Annual; stem decumbent and branched at base, strigose; leaves mostly opposite, 2-3 cm. long, ternately 3 or 4 times dissected, with narrow linear divisions, strigose; heads terminating the branches; peduncles 2-4 cm. long; involucre hemispheric, 4-5 mm. high, about 8 mm. broad; bracts strigose, oblanceolate or obovate, acute, somewhat yellowish towards the tip; ligule yellow, oval, 3 mm. long; tube of disk-corollas slender, glandular, 2 mm. long, throat campanulate, 1.5 mm. long; achenes narrowly obpyramidal, 3 mm. long, hispidulous on the angles; pappus of 8 obovate squamellae, 1 mm. long, with a short ovate thickening at the base.

98. Bidens frondosa L. A common weed from Newfoundland to Washington and southward. Maryland: Canton, on wastes between the chrome ore piles. Oct. 4, 1957. Reed 39588; Nov. 28, 1958. Reed 41748.

99. Bidens pilosa L. Adventive from tropical America, northward to Massachusetts. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32780; Oct. 12, 1953. Reed 32873, 32878 and 32882; Nov. 2, 1953. Reed 33001. Weedy square-stemmed annual, with simple ovate or 3-5-parted leaves, white to pale yellow or purplish ligules and linear-tetragonal achenes, 5-9 mm. long.

100. Bidens polylepis Blake. Native in the Mid-west from Illinois to Iowa, Kansas and Colorado, south to Tennessee, Missouri, Oklahoma and Texas; naturalized east to the Atlantic States. Maryland: Canton, on chrome ore piles. Sept. 6, 1958. Reed 41289.

101. Bidens tenuisecta Gray. Native from Idaho to Colorado, Texas and Arizona, south to Mexico. Maryland: Canton, on chrome ore piles. Oct. 1959. Reed 45691. Annuals, with stems up to 6 dm. tall, branched from the base, glabrous; leaves twice or thrice ternately or pinnately divided into linear lobes; heads about 1 cm. high and broad; bracts linear, hirsute, the outer usually slightly longer than the inner; achenes glabrous, the outer 6-8 mm. long, the inner 10-12 mm. long; awns fully 3 mm. long, those of the outer achenes shorter.

102. Carduus nutans L. Adventive from Europe; naturalized from St. P. et Miq. to Iowa, south to Nova Scotia, New England, Maryland, District of Columbia and Missouri. Maryland: Canton, on wastes, 1901 and 1904. Plitt.

103. Cnicus benedictus L. (Carthamus tinctorius L.). Native of southern Europe and Asia Minor; sparingly established from New Brunswick and Illinois and southward. Maryland: Canton, plentiful on wastes. June 1955. Reed 36552 (US).

104. Centaurea depressa Bieb. Native of Persia and Caucasus. Maryland: Canton, on chrome ore piles. June 22, 1954. Reed 33372. Perennial, almost prostrate, white-pubescent; lower leaves oblong, entire or lyrate, the upper ones linear-lanceolate; heads blue, up to 3 cm. across, the marginal flowers enlarged; bracts of involucre with black or white margins.
105. Centaurea calcitrapa L. Naturalized from the Mediterranean region in the southeastern states, north to New York and southern Ontario. Maryland: Canton, on chrome ore piles. May 24, 1954. Reed 33347; Aug. 23, 1956. Reed 37974 and 37966; June 29, 1956. Reed 38826.
106. Cichorium intybus L. Common as a weed throughout the Canton area. Flowers varying from blue to pink or white.
107. Cirsium arvense (L.) Scop. Naturalized from Europe. Maryland: Canton, July 6, 1904. Plitt.
108. Cirsium arvense var. horridum Wimmer & Grab. Naturalized from Europe; the more common variety in eastern United States. Maryland: Canton, on wastes near the chrome ore piles. June 12, 1959. Reed 42977. Plant very spiny; leaves deeply pinnatifid.
109. Cirsium discolor (Muhl.) Spreng. Frequent on the chrome ore piles and wastes in Canton. Sept. 24, 1957. Reed 39549.
110. Cosmos sulphureus Cav. Introduced from Mexico; New Jersey and Pennsylvania, southward; spread from cultivation. Maryland: Canton, on chrome ore piles. Nov. 5, 1953. Reed 32976 (US).
111. Cosmos parviflorus (Jacq.) HBK. Native from Colorado south to Texas, Arizona and Mexico; adventive on wool wastes in Maine and Massachusetts. Maryland: Canton, on chrome ore piles. Oct. 12, 1953. Reed 32916 (US); Nov. 2, 1953. Reed 32988. Stems 3-8 dm. tall, glabrous; leaves bi- or tripinnatifid into filiform divisions; involucre 6-7 mm. long; rays 7-12 mm. long; achenes 7-10 mm. long including the beak which is about one-third to one-half as long as the body; pappus awns about 2 mm. long.
112. Conyza bonariensis (L.) Cronq. Native of Venequela and Paraguay. Virginia: Newport News, in RR yard at port. Aug. 1959. Reed 44038.
113. Dyssodia papposa (Vent.) Hitchc. Native from Louisiana to Mexico and Arizona, north to southern Ontario, Minnesota, North Dakota and Montana; adventive east to New England. Maryland: Canton, on chrome ore piles. Nov. 2, 1953. Reed 32998; Nov. 10, 1953. Reed 33028.

114. Eclipta alba (L.) Hassk. A common weed which grows luxuriantly on the chrome ore piles, as well as in wastes areas of Canton. Sept. 27, 1953. Reed 32737; Oct. 4, 1957. Reed 39589; Nov. 23, 1958. Reed 41734.

115. Eclipta erecta L. Native of Lower California and Mexico, south to Guatemala, Honduras, Colombia and the Galapagos Islands. Maryland: Canton, on chrome ore piles. Aug. and Oct. 1959. Reed 44356 and 45703. This species is sometimes considered as a variety of E. alba, having long-peduncled heads.

Eupatorium is represented in the Canton, Dundalk and other wastes areas by three species, the last species forming huge plants on the chrome ore piles.

116. Eupatorium hyssopifolium L. July 6, 1904. Flitt.

117. Eupatorium purpureum L.

118. Eupatorium serotinum Michx. Maryland: Canton, on chrome ore piles. Aug. 23, 1956. Reed 37972; Clinton St. Oct. 4, 1957. Reed 39584; Dundalk. Sept. 24, 1957. Reed 39534.

119. Flaveria trinervia (Spreng.) Mohr. Florida and Alabama to southern Arizona, southward to South America; Cuba; introduced at Westford, Massachusetts. Maryland: Canton, on chrome and manganese ore piles. Sept. 27, 1953. Reed 32840; Nov. 2, 1953. Reed 32984 and 32997; Nov. 23, 1958. Reed 41731; on manganese ore piles. Oct. 6, 1959. Reed 45699. Virginia: Newport News, on manganese ore piles. Nov. 15, 1959. Reed 45866. Annual, dichotomously and divaricately branched; stem erect, 3-12 dm. high, sometimes tinged with red, glabrate; leaves connate, lanceolate, 3-nerved, serrate, 3-9 cm. long, the lower short-petioled; cymes congested and head-like, 2-2.5 cm. broad, axillary, subtended by 3 pairs of leaves; heads small, usually 1-flowered, the flower either subligulate and pistillate or regular and hermaphroditic; involucre bracts concave, 1 or 2, if the latter, the outer shorter; corolla of the pistillate flowers 1.5 mm. long, the ligule oblique, 3-dentate; corolla of the hermaphroditic flower 2 mm. long; tube villous; throat campanulate; achene 2 mm. long, somewhat clavate; pappus wanting.

120. Guizotia abyssinica (L. fil.) Cass. Adventive from tropical Africa, from Connecticut to Michigan and Pennsylvania. Maryland: Canton, on chrome ore piles. Nov. 4, 1958. Reed 41371.

121. Helianthus annuus L. Native from Manitoba and Minnesota to Texas and westward; cultivated and spreading eastward to Quebec, New Brunswick, Nova Scotia and the Atlantic States. Maryland: Canton, whole areas have been taken over by this sunflower. The flowers range from 2 to 6 inches in diameter, and most of the plants have many-headed stalks, up to 10 ft. tall. Some plants have been collected on the chrome ore piles which are only 2 ft. tall and are similar to Helianthus lenticularis Dougl. (July 1959. Reed 43657). Oct. 2, 1953. Reed 32688; Sept.

20, 1957. Reed 39386; Nov. 4, 1958. Reed 41358; Nov. 23, 1958. Reed 41738; Port Covington. Nov. 8, 1957. Reed 38485.

122. Helianthus tuberosus L. Common in the wastes just south of Highlandtown. Sept. 20, 1957. Reed 39389.

123. Helianthus laetiflorus Pers. Common in the wastes about Port Covington. Nov. 8, 1957. Reed 39483.

HETEROSPERMA Cav. (Icon. III, p. 34, t. 267. 1794 (1795), preface on p. V says 10 Jan. 1795; also in 1802). (Willdenow in 1804, without due cause changed it to Heterospermum -- vide Blake, Journ. Bot. 53: 322. 1915).

124. Heterosperma pinnatum Cav. Native of Mexico. Maryland: Canton, on chrome ore piles. Oct. 12, 1953. Reed 32918; Nov. 2, 1953. Reed 32989; Nov. 5, 1953. Reed 32978. Stems herbaceous, branches opposite; leaves opposite, very glabrous, connate, pinnate with unequal acute-linear pinnules; flowers terminal, peduncled, single-flowered; calyx very deeply lacinate, acute-linear, longer than the flower, ciliate at the base; corolla yellow; anthers fuscous; paleae ovate, striate; florets barely 16, distinguished by the violaceous-fuscous of the rays and the yellow of the hermaphroditic ones.

125. Helenium tenuifolium Nutt. (H. amarum (Raf.) Rock). Common in RR yards in port of Newport News, Va. Aug. 1959. Reed 44036.

126. Hypochoeris radicata L. Naturalized from Europe; Newfoundland to Ontario, south to North Carolina, West Virginia, Ohio, Indiana and Illinois. Virginia: Newport News, on chrome ore piles. Nov. 1959. Reed 45890.

127. Iva frutescens L. Frequent in the wastes in Canton. Sept. 1957. Reed 39533.

128. Inula helenium L. Naturalized from Europe; from eastern Ontario to southern Quebec, and southward. Maryland: Canton. Sept. 12, 1900 and Oct. 18, 1900. C.C. Plitt.

MELAMPODIUM L. Ray flowers pistillate and fertile, rays white, yellow to sometimes pink, spreading, conspicuous; disk flowers perfect but sterile, with undivided style; anthers united, entire at base; achenes broadening upward and more or less incurved; pappus wanting. -- Perennial herbaceous plants with taproots and caudex; stems leafy, the leaves opposite, entire to sinuately lobed; heads terminal on the stem and branches; involucre campanulate, bracts in 2 sets, the outer 4 or 5 herbaceous, broad, flat and partially united, the inner hooded, each embracing a ray achene and deciduous with it; receptacle convex or conical, chaffy.

129. Melampodium hispidum HBK. Native of S. Arizona and Mexico. Maryland: Canton, on chrome ore piles. Sept. 1953. Reed 32739 and 32746. Rays yellow, inconspicuous; usually not more than 2 mm.

long; plants annual, strictly herbaceous; heads 2-6 mm. wide, usually sessile or subsessile; fruit not hooded or beaked at apex. Kearney, Peebles et al, Arizona Flora, p. 890. 1960.

130. Onopordum acanthium L. Naturalized from Europe (and eastern Asia); from New Brunswick to Ontario, south to Alabama and south-eastern Missouri. Scotch thistle. Maryland: Canton, forming large patches. 1901-1904. C.C.Plitt.

131. Parthenium hysterophorus L. Adventive from tropical America, from Florida to Texas, locally north to Massachusetts, Pennsylvania, Ohio, Michigan, Illinois, Missouri and Kansas. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32806; Oct. 25, 1954. Reed 33363.

132. Pulicaria dysenterica (L.) Gaertn. Naturalized from Europe; otherwise only recorded from the shores of the Potomac River, Charles Co., Maryland. Also Maryland: Canton, on chrome ore piles. Oct. 17, 1956. Reed 38249.

SANVITALIA Lam. Heads heterogamous, radiate; rays pistillate, fertile, ligulate, persistent on the achene; disk flowers perfect, fertile, tubular; involucre depressed hemispheric, of herbaceous bracts imbricated in 2-3 series; receptacle convex to conic, chaffy; scales enfolding the disk flowers, persistent on the receptacle; achenes heteromorphous, ray achenes triangular, dorsally compressed, 3-awned, the disk achenes laterally compressed, winged or wingless, 2-awned or awnless; annual herbs with rather showy heads of yellow rays and dark purple disks.

133. Sanvitalia angustifolia Engelm. Native of Mexico. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32775; June 22, 1954. Reed 33418. Stem diffused; leaves lanceolate, strigose-hispid ligules small, aristate, with shorter acute setulae, 3-5 barbate-apiculate; achenes or outer disk exalate subclavate, the inner short winged, bi-ari-stellate.

134. Sanvitalia procumbens Lam. Native of Mexico, Yucatan. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32735 and 32785; June 22, 1954. Reed 33416. Annual, diffuse and procumbent, with subangles stems and branches; leaves opposite, petioled, lanceolate-ovate, strigose; inflorescence of solitary heads terminating the slender hirsute branches, the heads 7-8 mm. high, 12-15 mm. broad, subtended by 2-3 foliaceous, hirsute bracts; rays 8, disk flowers numerous; involucre bracts orbicular, appressed, with foliaceous spreading ciliate tips, pubescent, the inner little exceeding the outer; rays yellow, turning white in fruit, ovate, 5-6 mm. long, minutely bidentate; disk corollas dark purple, 5-lobed; receptacle convex to conic; scales lanceolate, conduplicate, exceeding and partly enfolding the disk flowers; achene of ray flowers cineraceous black when mature, 1.2 by 3 mm., oblong cuneate, in section triangular, tuberculate, hirsute at the base; awns 3, divergent, 2 mm. long; achenes of disk flowers dull brown, .85 by 2 mm., obovoid, in section plano-convex to rhomboidal biconvex,

with one or a pair of loosely cellular, ciliate-fimbriate wings, 5-7 mm. wide, or wingless; the winged with 1 or 2 awns, 1.2 mm. long or awnless, faintly tuberculate; the wingless achenes awnless and covered with tubercules each tipped by a short stiff hair or its stub.

SCHKUHRIA Roth. Annuals, rarely perennials, with slender, branching, erect or decumbent stems; stems glabrate to hispid; lowermost leaves opposite, upper alternate, pinnately or bipinnately divided into linear-filiform lobes, rarely simple, often impressed-punctate; heads discoid or radiate with one to few rays; involucre obconic to turbinate; bracts of the involucre 4-18, obovate to oblanceolate, rather narrow, scarious and frequently colored on the margins, occasionally one or more smaller bracts present; ray flowers 1-3, rarely more, yellow to white, minute; disk flowers few to numerous, yellow, rarely red-tipped, lobes 5, extending about half the length of the throat, glandular tube equal to or less than the length of the throat; style branched with short acute appendages; achenes elongate; obpyramidal, generally 4-angled, villous or hispid on the angles, particularly at the base; pappus of 8, rarely more, scarious squamellae, calloused at the base or with prominent mid-rib becoming an awn in some of the species.

135. *Schkuhria wislizeni* A.Gray. (= *S. anthemoides* var *wislizenii* (Gray) Heiser, Ann. Missouri Bot. Gard., 32: 273. 1945). Native of Arizona and Mexico. Maryland: Canton, on chrome ore piles. Oct. 25, 1954. Reed 35198. Erect annual; stems glabrate, striate, 20-50 cm. in height; leaves glabrate, pinnately or bipinnately dissected into linear-filiform segments, 10-40 mm. long, 0.5-2 mm. wide, or the upper and lower ones entire, conspicuously glandular-punctate; involucre bracts yellow to purple at the apex; ligules seldom over 1 mm. long, almost as wide; squamellae lanceolate to ovate-lanceolate, those of the angles awn-tipped, the intermediate ones shorter, muticous.

SIMSIA Pers. Coarse annual or perennial herbs; leaves alternate or the lower ones usually opposite; heads rather large, radiate or discoid, the flowers yellow or purple; phyllaries 3-4-seriate, subequal or slightly graduated, narrow; receptacle slightly convex, paleaceous; rays usually yellow; disk achenes flat, obovate or oblong, glabrous or sericeous, the edges thin, not marginate; pappus none or of 2 awns.

136. *Simsia lagascaeformis* DC. (*Encelia lagascaeformis* A.Gr. in litt.) Native of Mexico. Maryland: Canton, on chrome ore piles. Oct. 12, 1953. Reed 32915; Nov. 2, 1953. Reed 32985 and 33000; Nov. 5, 1953. Reed 32980.

137. *Solidago altissima* L. Common on wastes along Clinton Street, Canton. Oct. 4, 1957. Reed 39585; along creek near Dundalk. Sept. 24, 1957. Reed 39532.

138. Solidago sempervirens L. Common along creek near Dundalk. Sept. 24, 1957. Reed 39430.
139. Sonchus arvensis L. var. glabrescens Guenth., Graebn. & Wimm. Naturalized from Europe; from eastern Quebec to Minnesota, south to Nova Scotia, Connecticut and Indiana. Maryland: Canton, on oyster shell piles. Oct. 31, 1957. Reed 39445; Nov. 23, 1958. Reed 41729.
140. Sonchus oleraceus L. A frequent weed on the oyster shell piles and the chrome ore piles in Canton. On chrome ore piles, Sept. 27, 1953. Reed 32790; June 22, 1954. Reed 33427; on oyster shell piles. Oct. 31, 1957. Reed 39446; July 17, 1958. Reed 40995; Oct. 4, 1957. Reed 39569; Nov. 23, 1958. Reed 41737.
141. Tagetes erecta L. Native of Mexico; cultivated and escaped in various areas of the West Indies and North America. Maryland: Canton, on chrome ore piles. Nov. 2, 1953. Reed 32983. Glabrous, often much-branched, up to 8 dm. tall, or less; leaves pinnately divided, somewhat petioled, the lower 10-15 cm. long; leaf-segments narrowly oblong to oblong-lanceolate, gland-dotted, sharply serrate, acute, 1.5-2.5 cm. long, or the lower ones much smaller; heads solitary at the ends of the branches, 2.5-4.5 cm. broad; peduncles 4-10 cm. long, swollen below the heads; involucre 1.5-2 cm. high, its bracts united to near the summit; rays 10-20 cm. long or longer, yellow.
142. Tagetes minuta L. Introduced from South America; South Carolina to eastern Virginia, north to Massachusetts. Maryland: Canton, on chrome ore piles. Nov. 23, 1958. Reed 41730.
143. Tagetes pusilla HBK. Native from Guatemala and Costa Rica to Ecuador and Bolivia. Maryland: Canton, on chrome ore piles. Oct. 12, 1953. Reed 32890 (US); Oct. 25, 1954. Reed 35200. Annual, diffuse; stem rarely more than 1 dm. tall, branched at the base, angled, striate, sometimes minutely scabrous above; leaves opposite or the upper alternate, pinnatifid, or bipinnatifid with linear-filiform divisions; heads sessile or short-peduncled; peduncles rarely 1 cm. long, angled, sulcate; involucre turbinate-clavate, 6-7 mm. long, 2-2.5 mm. broad, decidedly angled at the base; bracts about 5, with rounded, mucronate, membranous-margined tips, and with 3 rows of many minute glands; ray-flowers 1-3, ligulae glabrous, elliptic, white, sometimes wanting; disk-flowers 8-10, corollas glabrous, 3 mm. long; tube shorter than the trumpet-shaped throat; achenes 5-6 mm. long, strongly striate; 2 or 3 of the squamellae bristle-like, hispidulous, about 4 mm. long, fully twice as long as the other 3 or 4 which are linear or oblong, truncate, often unequal in length.

TRIDAX L. Disk-flowers perfect and fertile, the ray-flowers pistillate, the rays often 3-lobed; involucre ovoid to hemispheric, its nearly equal bracts in few series, or the outer smaller than the inner; receptacle flat or convex, the chaff subtending the

disk-flowers; anthers auricled at the base or sagittate; style-branches of the disk-flowers subulate-appendaged; achenes silky-villous; pappus of many aristate plumose scales, perennial herbs with opposite, dentate or incised leaves, and long-peduncled heads of tubular and radiate flowers.

144. Tridax accendens Blake. Native of Mexico. Maryland: Canton, on chrome ore piles. Oct. 12, 1953. Reed 32899. Stems 5 dm. tall, with numerous erectish branches above, green, purplish-tinged, subterete, somewhat sulcate below, sparsely spreading pilose with several-celled hairs 1-1.5 mm. long, mostly tipped with brownish glands, the branches and pedicels puberulent with minute several-celled mostly incurved glandless hairs; leaves opposite, shorter than the internodes, petioles 2-8 cm. long, pilose with gland-tipped hairs, blades of larger leaves 5 cm. long, 4 cm. wide, subtruncate at the base and then shortly cuneate-decurrent with the petiole, remotely repand-serrate with 5-8 pairs of low bluntish teeth, herbaceous, green on both sides, above sparsely hirsute-pilose with subtuberculated-based hairs, beneath more sparsely hirsute-pilose, chiefly along the veins, triplinerved about 4 mm. above the base; panicle about 30 cm. long, 19 cm. wide, nearly naked, its lowest branches subtended by reduced leaves, the remaining bracts linear-lanceolate or narrowly triangular, 3-10 mm. long, pedicels mostly 13-15 cm. long; heads campanulate, about 22-flowered, about 5 mm. high, 7 mm. thick; phyllaries 5, 1-seriate, all subtending flowers, greenish with narrow whitish scarious margin, usually browning at apex, 6-8-vittate, obscurely ciliolate above, glabrous on back; receptacle low-conical, the palae readily deciduous; corollas white, densely hirsutulous on tube, sparsely so on some of the nerves and on teeth, 3.5-3.8 mm. long (tube 1 mm., throat cylindrical-oblong, about 1.5 mm. in outer corollas, 1.8 mm. long in central flowers; teeth 5, broadly triangular, 1.2 mm. long in outer corollas, 0.8 mm. in central flowers); achenes of outer flowers obovoid, somewhat compressed, densely and shortly silky-pilose, 5-ribbed, 2 mm. long, their pappus persistent, of about 20 lanceolate lacerate-fimbriate squamellae, united at the base, about 0.4 mm. long; central achenes obpyramidal with 5 black glabrous ribs, densely short-pilose, 1.8 mm. long, their pappus of about 20 alternately, somewhat unequal oblong obtuse fimbriate squamellae, 0.8-1 mm. long, united at the base in a thick ring; intermediate fruits with intermediate characters.

145. Verbesina encelioides (Cav.) B. & H. Native from Montana to Arizona, east to Kansas and Texas; adventive to Missouri and eastward to New England. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32660; Oct. 12, 1953. Reed 32892; June 22, 1954. Reed 33415; Oct. 25, 1954. Reed 35207.



Weeds on chrome ore at Canton, Maryland



Amaranthus, grasses on chrome ore at Canton, Maryland

146. Xanthium chinense Mill. Maryland: Canton, common in wastes. Sept. 27, 1953. Reed 32829.

147. Xanthium spinosa L. Maryland: Canton, common in several waste places and on chrome ore piles. Sept. 27, 1953. Reed 32708, 32781, 32849; Oct. 12, 1953. Reed 32875; Nov. 2, 1953. Reed 32987; Oct. 25, 1954. Reed 35234; Sept. 30, 1955. Reed 38241; Oct. 17, 1956. Reed 38246.

CONVOLVULACEAE

148. Convolvulus arvensis L. Naturalized from Eurasia, from southern Quebec, southward and westward. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32658; July 17, 1958. Reed 40993; wastes, Clinton and Holabird Streets, Canton. May 22, 1958. Reed 40415.

149. Cuscuta gronovii Willd. Not uncommon on plants in wastes in Canton. July 6, 1904. Plitt.

150. Evolvulus filipes Mart. Central and tropical and subtropical South America. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32846. Herb with slender, erect or ascending stems, appressed hairy; leaves oblong- or linear-lanceolate, acute or acuminate, 4-10 mm. long, 1-2 mm. broad, appressed hairy or nearly glabrous, very shortly petioled; inflorescences axillary, 1- or rarely 2-3-flowered; the pedicels 1-4 mm. long; bracts minute, persistent, linear-lanceolate; sepals lanceolate, acute, 2 mm. long; corolla rotate with short tube, white or lilac; capsule globose, 2-3 mm. in diameter, 4-valved, 4-1-seeded; seeds glabrous.

151. Ipomaea aff. angustifolia Jacq. Native of Africa; also known from Australia and Puerto Rico. Virginia: Newport News, on chrome ore piles, marked from India. Nov. 1959. Reed 45901.

152. Ipomaea nil (L.) Roth. Old World Tropics; Hawaii; continental tropical America; West Indies; Florida. Maryland: Canton, on chrome ore piles. Oct. 1959. Reed 45814.

CRUCIFERAE

153. Arabidopsis thaliana (L.) Heryh. Naturalized from Europe; Massachusetts to Michigan and Illinois, and southward. Frequent on the wastes in Canton. April 24, 1958. Reed 40701.

154. Brassica kaber (DC.) L.C.Wheeler, var. pinnatifida (Stokes) L.C.Wheeler. (B. arvensis (L.) Rabenh., non L.; Sinapis arvensis L.) Naturalized from Eurasia. Maryland: Canton, on wastes. May 16, 1903. Plitt.

155. Brassica hirta Moench. (B. alba of Amer. auth., non Gilib.; Sinapis alba L.). Maryland: Canton, on wastes. May 1903. Plitt. (Reed Herb.).

156. Brassica juncea (L.) Coss. Maryland: Canton, on wastes and on chrome ore piles. June 10, 1957. Reed 38800.
157. Brassica nigra (L.) Koch. Maryland: Canton, on chrome ore piles. Oct. 25, 1954. Reed, Herb. No. 9166.
158. Brassica rapa L. (B. campestris L.) Naturalized from Eurasia; throughout eastern North America as a weed. Maryland: Canton, May 1903. Plitt; on chrome ore piles, June 22, 1954. Reed 33359; Oct. 25, 1954. Reed 35243; also fields near Fork, Baltimore Co. May 10, 1959. Reed 38879.
159. Cakile maritima Scop. Adventive from Europe; sporadic on rubbish piles along coast, eastern United States. Maryland: Canton. along shore near Newkirk Street. Sept. 27, 1953. Reed 32704; May 24, 1954. Reed 33346; on chrome ore piles. July 17, 1958. Reed 40994.
160. Capsella bursa-pastoris (L.) Medic. Naturalized from Europe, throughout North America and beyond. Common in the wastes in Canton. April 24, 1958. Reed 40706.
161. Cardaria draba (L.) Desv. (Lepidium draba L.) Naturalized from Europe; from Nova Scotia to District of Columbia and westward. Maryland: Canton in wastes. May 1903. Plitt.
162. Coronopus didymus (L.) Sm. Naturalized from Europe, from Florida to Texas, north to Newfoundland. Maryland: Canton, on chrome ore piles. July 17, 1958. Reed 41000.
163. Diplotaxis tenuifolia (L.) DC. Naturalized from Europe, from New Brunswick to Ontario, south to Nova Scotia, New England, Virginia and Michigan. Maryland: Canton, on ballast lot. Oct. 17, 1900. C.C.Plitt. (Reed Herb.); May 16, 1903. C.C.Plitt.
164. Diplotaxis siifolia Kunze. Maryland: Canton, on chrome ore piles. Oct. 2, 1953. Reed 32682.
165. Erysimum repandum L. Adventive from Eurasia, from Massachusetts to Oregon, south to Alabama, Arkansas and Texas. Maryland: Canton, on chrome ore piles. June 23, 1955. Reed 36550.
166. Lepidium campestre (L.) R.Br. Common in wastes areas throughout the Canton area. Canton, on the chrome ore piles. April 24, 1958. Reed 40697.
167. Lepidium virginicum L. Common in wastes areas throughout the Canton area. June 23, 1955. Reed 36551.
168. Lepidium graminifolium L. Native of Europe and the Mediterranean region; waif in New Jersey and Pennsylvania. Maryland: Canton, on chrome ore piles. June 22, 1954. Reed 33424, 33364; May 24, 1954. Reed 33346; June 23, 1955. Reed 36549; May 24, 1960. Reed 46326.

169. Lepidium hyssopifolium Desv. Native of New Holland. Maryland: Canton, on chrome ore piles. Sept. 24, 1958. Reed 41218. (vel L. sativum ?) Annual herb, winged, branched, the branches divaricate, pubescent to glabrous; leaves linear-lanceolate, acute, minutely dentate toward the apex, glabrous; silicle oval, apex obtuse, emarginate; stigma sessile, capitate.
170. Raphanus raphanistrum L. Maryland: Canton, on chrome ore piles. June 22, 1954. Reed 33429.
171. Raphanus sativus L. Maryland: Canton, on chrome ore piles. June 22, 1954. Reed 33360.
172. Rorippa islandica (Oeder) Borbas. Native of Greenland and Eurasia; adventive from Europe; Anticosti Isl., Quebec to Michigan, south to Nova Scotia, New England, New Jersey and Pennsylvania. Maryland: Canton, on ballast. July 6, 1904. C.C.Plitt.
173. Rorippa simata (Nutt.) A.S.Hitchc. Native from western Ontario to Washington, south to Michigan, Illinois, Missouri, Oklahoma, Texas, New Mexico, Arizona and California. Maryland: Canton, on chrome ore piles. June 10, 1957. Reed 38809.
174. Rorippa sylvestris (L.) Bess. Naturalized from Europe; Newfoundland to Ontario, south to New Brunswick, New England, Virginia, Kentucky and Missouri. Maryland: Canton, July 6, 1904. C.C.Plitt.
175. Sisymbrium altissimum L. (Norta Britt.) Naturalized from Europe, throughout eastern North America and beyond. Maryland: Canton, common on the oyster shell piles. May 22, 1958. Reed 40411; on chrome ore piles. July 22, 1954. Reed 34034; wastes, Clinton and Holabird Streets. May 22, 1958. Reed 40418.
176. Descurainia sophia (L.) Webb. (Sisymbrium L.). Naturalized from Europe; Quebec to Washington, south to Delaware, Pennsylvania, Illinois, Kansas, Colorado, Utah and California. Maryland: Canton. June 1900. C.C.Plitt.
177. Thlaspi arvense L. Naturalized from Europe; Labrador to Alaska, and southward. Maryland: Canton, on chrome ore piles, frequent. Oct. 25, 1954. Reed 35195.

CUCURBITACEAE

BLASTANIA Kotschy & Peyr. Slender twiner; stems slightly scabrid, ribbed; leaves digitately 3-5-partite, up to 7 cm. long, thin, lobes sharply toothed, scabrid-pubescent; petiole pubescent; bract foliaceous and resembling a stipule at base of inflorescence, ovate-orbicular, narrowed to the base, fimbriate, about 1 cm. long; male flowers few and very small on a common axillary peduncle up to 2 cm. long, female solitary, subsessile or short pedicellate; fruit about 2-seeded, globose, smooth, 1-1.5 cm. in diameter.

178. Blastania fimbristipula Kotschy & Peyr. Native of Togoland, West Africa to eastern Sudan, Abyssinia, Angola, east and south Africa; Arabia and India. Maryland: Canton, on chrome ore piles. Sept. 24, 1958. Reed 44236. Flowers creamy-white; fruit scarlet, cherry-like.

179. Citrullus vulgaris Schrad. (Watermelon). Many varieties of these have been collected on various chrome ore piles, in Canton, between 1953 and 1960.

CYPERACEAE

180. Cyperus fuscus L. Adventive from Europe; Massachusetts to western New York and Virginia. Maryland: Canton, June 19, 1900; July 20, 1901; Aug. 19, 1902. Oct. 1, 1902. All collected by Plitt.

181. Cyperus globulosus Aubl. Native of tropical America; Florida to Texas, north to Virginia, New Jersey, Pennsylvania, Missouri and Oklahoma. Maryland: Canton, on chrome ore piles. Sept. 19, 1958. Reed 44325.

182. Cyperus iria L. Native of the warmer parts of Eurasia; Florida to Texas, north to southeastern Virginia and Maryland. Maryland: Canton, on chrome ore piles. Aug. 1959. Reed 44366; Oct. 1959. Reed 45705. Virginia: Newport News, on chrome ore piles. Nov. 1959. Reed 45882.

183. Cyperus rotundus L. Naturalized from Eurasia; Florida to Texas and Mexico, north to Virginia and southern New York. Maryland: Canton, Sept. 27, 1953. Reed 32723 and 32758; July 17, 1958. Reed 44019; Sept. 6, 1958. Reed 44292; Sept. 19, 1958. Reed 44339. Manganese ore piles, Aug. 18, 1959. Reed 44381; July 15, 1960. Reed 46737. Virginia: C&O RR at Port of Newport News. Aug. 7, 1959. Reed 44040 and 44077.

184. Cyperus strigosus L. Florida to Texas and New Mexico, California, north to New England, southwestern Quebec, Michigan, Wisconsin, Minnesota, Nebraska and Washington. Maryland: Canton, on chrome ore piles. Sept. 1, 1954. Reed 34382; Sept. 19, 1958. Reed 44323 and 44333.

185. Cyperus polystachyos Rottb. var. texensis (Torr.) Fern. Tropical America to Argentina; Florida to Texas and Mexico, north on the coastal plain to Cape Cod, Massachusetts and inland north to se Missouri. Maryland: Canton, on manganese ore piles. Aug. 1959. Reed 44380; Oct. 1959. Reed 45698.

186. Cyperus compressus L. Widely distributed in Old World; through tropical America to Brazil; Florida to Texas, near the coast, north to Delaware and Maryland, inland to Missouri. Maryland: Canton, on manganese ore piles. Aug. 1959. Reed 44377; Oct. 1959. Reed 45695.

KYLLINGIA ROTTB. Annual or perennial sedges, with slender triangular culms, leafy below and with 2 or more leaves at the summit forming an involucre to the strictly sessile, simple or compound dense head of spikelets; spikelets numerous, compressed, falling away from the axis of the head at maturity, consisting of only 3 or 4 scales, the 1 or 2 lower ones small and empty, the middle one fertile, the upper empty or staminate; joints of the rachis wingless or narrowly winged; scales 2-ranked, keeled; perianth none; stamens 1-3; style 2-cleft, deciduous from the summit of the achene.

187. Kyllingia brevifolia Rottb. West Indies, southern United States, tropical continental America and Old World Tropics; common on Pacific Islands; this similar to specimens from Pitcairn Isl. in US. Maryland: Canton, on chrome ore piles. Oct. 14, 1958. Reed 41119; Nov. 23, 1958. Reed 41743.

188. Scirpus americanus Pers. Native of Eurasia; Florida to Texas, south to South America, west to Pacific, north to Newfoundland. Maryland: Canton, in ditches near oyster shell piles. July 19, 1958. Reed 40877.

189. Scirpus hystrix Thunb. Native of South Africa, Natal. Virginia, Newport News, on chrome and iron ore piles. Aug. 1959. Reed 44059 (US); Nov. 1959. Reed 45864. Tufted annual, 8 cm. high or less; leaves as long as the flowering stems, flat above, rounded below; spikelets few to several in a cluster, the bract at base of cluster leaf-like; spikelets bristly with the green somewhat reflexed tips of the bracts; bracts widely ovate, green, sometimes with a reddish tinge, cuspidate; stamens 2, the anthers small, at maturity many times shorter than the filament; style branches 3, divided almost to the base; fruit sharply 3-angled, greenish-black, the posterior face largest.

DICHONDRACEAE

DICHONDRA Forst. Small prostrate or creeping herbs, rooting at the nodes, with stalked rounded or reniform leaves, and axillary 5-partite flowers; carpels 2, free, each 1- or 2-celled, with 1 or 2 ovules to each cell, the 2 styles arising between the carpels; fruits of fruitlets, usually 1-seeded. This genus is sometimes placed in the Colvolvulaceae.

190. Dichondra repens Forst. Native of Australasia and almost cosmopolitan to the warm regions of the world. Maryland: Canton, on chrome ore piles. Nov. 1958. Reed 41726. A small perennial prostrate, slender creeping herb, with small roundish, silky leaves, 1-2 cm. broad; flowers small, pale white or yellow, with 5 calyx and 5 corolla parts; sepals oblong, 2-4 mm. long, the corolla hardly longer, with 5 oblong lobes twice as long as the tube; fruitlets 2, each with 1 obovoid seed, or only 1 developing; fruit a capsule.

DYSPHANIACEAE

DYSPHANIA R.Br. Herbs, low, glabrous, with small alternate leaves without stipules; flowers small, in axillary or terminal clusters, with the inner ones often female; perianth of 1-3 white segments, stalked, with a broad limb; stamens 1-3; styles 1-2, short and thin; fruit 1-seeded, the pericarp closely adherent to the seed. This genus is related to *Scleranthus*, which has opposite leaves and typical sepals and is placed by Pax next to that genus in the Caryophyllaceae; it is more closely related to *Chenopodium* and thus links the families together. The genus has 4 or 5 species in Australia.

191. *Dysphania plantaginella* F. v. M. Native of western Australia. Maryland: Canton, on manganese ore piles. July 1959. Reed 43843. (Det. by L.B. Smith).

EQUISETACEAE

192. *Equisetum arvense* L. Eurasia; North America, south to Virginia, Missouri, Nebraska, Colorado and northern California. In Canton, between the chrome ore piles. June 1957. Reed 38797; in wastes in Canton. Oct. 1957. Reed 39418 and May 1958. Reed 40416.

EUPHORBIACEAE

193. *Acalypha virginica* L. Georgia to Texas, north to Massachusetts, etc. Weeds throughout the Canton area. Some have green bracts (Reed 35208), others have red bracts (Reed 35210).

CHROZOPHORA Neck. Plants monoecious; Male flowers: calyx 5-partite, densely stellately hairy, lobes ovate, petals 5, membranous, equalling or shorter than the sepals; disc inconspicuous, of 5 glands or connate into a ring; stamens 5-15, more or less in 1-3 series; filaments connate into a minutely pubescent tube; anthers of outer series subsessile; pistil none. Female flowers: calyx segments narrow linear; petals narrow, sometimes small or setaceous, or none; disc glandular, alternating with the petals or disc somewhat tumid; ovary 3-chambered, with a single ovule in each chamber, stellately hairy; styles 2-fid, covered with distinct papillae; capsule somewhat fleshy, splitting into 3 cocci, stellately hairy; seed subglobose, with a woody testa, sometimes rough; endosperm fleshy, copious; embryo straight; cotyledons subquadrate. Branching herbs, often spreading, covered with stellate hairs or hispid; leaves alternate, petioled, ovate, often with undulate margins; stipules small, setaceous; inflorescences a short dense sessile axillary raceme.

194. Chrozophora tinctoria (L.) Juss. Native of the Mediterranean region, Spain, Italy, Greece, France, Syria, Egypt and Algeria. Maryland: Canton, on chrome ore piles. July 1959. Reed 43620; Aug. 1959. Reed 44359.
195. Croton glandulosus L. var. septentrionalis Muell. Florida to Texas, north to Delaware; adventive to New Jersey and Pennsylvania. Virginia: Port of Newport News, weedy. Aug. 7, 1959. Reed 44037 and 44080. Also known as far north in Maryland as Anne Arundel Co. July 22, 1956. Reed 38425 and July 18, 1960. Reed 47047; and Caroline Co., on wastes near Denton. Sept. 9, 1956. Reed 38496. Also collected in railroad yards at Portsmouth, Scioto Co., Ohio where some of the ores from the east have been taken.
196. Croton bonplandianus Baill. Native of Argentina. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32742; July 19, 1958. Reed 40888; July 17, 1958. Reed 41003; July 1959. Reed 43628; Aug. 1959. Reed 44364; Oct. 1959. Reed 45702 and 45822; Sept. 1959. Reed 45677; on pile from Turkey. Oct. 14, 1958. Reed 41118; Sept. 6, 1958. Reed 41302. Some of these piles miles apart. Virginia: Newport News, on chrome ore piles, from India. Nov. 1959. Reed 45897.
197. Euphorbia chamaesyce L. (E. prostrata Ait.). Naturalized from tropical America; Florida to Texas and Mexico, north to southeastern Virginia, Maryland and Missouri. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32729 and 32848; Oct. 1953. Reed 32896; June 1954. Reed 33433; Sept. 1957. Reed 39324; Oct. 1959. Reed 45816.
198. Euphorbia dentata Michx. New York to Virginia, west to Minnesota, South Dakota and Wyoming, south to Louisiana, Texas and Mexico. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32811; Locust Point, wastes along Railroad. July 1959. Reed 43828 (US) and 43829 (leaves linear). Virginia: Newport News, common in the railroad yards in the port. Aug. 1959. Reed 44069 and 44035.
199. Euphorbia esula L. Naturalized from Europe; Quebec to Alberta, south to Nova Scotia, New England, Pennsylvania, Indiana, Illinois, Iowa, Nebraska, etc. Maryland: Canton. May 1903. C.C.Plitt; July 1904. C.C.Plitt. (Reed Herb.).
200. Euphorbia falcata L. Naturalized from Europe; Pennsylvania and Ohio, south to Virginia and West Virginia. Maryland: Canton, on chrome ore piles. June 1956. Reed 38816.
201. Euphorbia glomerifera Millsp. (E. hypericifolia L.). Florida to Texas and Mexico, West Indies, Bermuda. Maryland: Canton, on chrome ore piles. June 1954. Reed 33440.

202. Euphorbia hernariaefolia Willd. Native of Crete, Mt. Olympus, Asia Minor (US). Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32669.
203. Euphorbia hirta L. Widely distributed in tropical and sub-tropical lands, including southeastern United States. Maryland: Canton, on chrome ore piles. Nov. 2, 1953. Reed 32990; July 1959. Reed 43631; Oct. 1959. Reed 45704.
204. Euphorbia hyssopifolia (L.) Small. Native of Florida, the West Indies and tropical continental America. Maryland: Canton, on chrome ore piles. Sept. 1954. Reed 34392.
205. Euphorbia maculata L. (E. preslii Guss.) Florida to Texas and Mexico, north to New England, New York, etc. Frequent on the chrome ore piles in Canton. Sept. 1, 1954. Reed 34379 and 34381.
206. Euphorbia marginata Pursh. Minnesota to Colorado and Texas; introduced in wastes in the central and Atlantic States. Virginia: Newport News, common in wastes about the port in railroad yards. Aug. 1959. Reed 44072.
207. Euphorbia supina Raf. Southern Canada to North Dakota, and southward. A common weed in railroad wastes, on chrome ore piles, roadsides, in both Canton and Newport News.
208. Euphorbia vermiculata Raf. Gaspé Peninsula to northern Michigan, south to Maryland, Ohio, Indiana and southern Wisconsin; New Mexico and Arizona. Maryland: Canton, on chrome ore piles. Sept. 1953. Reed 32744; Oct. 1959. Reed 45794.
209. Mercurialis annua L. Local on wastes and ballast-ground, Quebec to Ohio, and southward. Maryland: Canton, on ballast. July 1904. C.C.Plitt. (Reed Herb.).

FAGACEAE

210. Quercus phellos L. Northern Florida to eastern Texas, north to Long Island, New Jersey, southeastern Pennsylvania, etc. In Canton this oak has been collected, Aug. 1880. Geo. L. Smith. (Reed Herb. No. 18308).

GERANIACEAE

211. Erodium cicutarium (L.) L'Her. Naturalized from Europe; Quebec to Michigan and Illinois, south to Nova Scotia, New England, Virginia, Tennessee, Arkansas, Texas and Mexico. Maryland: Canton, on chrome ore piles. June 22, 1954. Reed 33362.

212. Geranium rotundifolium L. Native of Europe, Russia, Asia, Britain and Ireland. Maryland: Canton, on chrome ore piles. June 22, 1954. Reed 33366. Annual with wide spreading branches, with small orbicular or reniform leaves, with soft hairs; the peduncles rather short, the blades shortly divided into broad lobes; the flowers small with entire obovate petals, scarcely extending the slightly pointed sepals; carpels hairy, without wrinkles; the seeds dotted.

GRAMINEAE

I wish to thank Dr. Jason Swallen and am indebted to Mrs. Agnes Chase of the United States National Herbarium for verifying or identifying the grasses collected in the Canton and Newport News areas. Many new genera and species have been found in these areas, some of which have already been published in Rhodora (Reed, 1954, 56: 178-181).

213. Aegilops triuncialis L. Introduced from Europe; a weed in California; adventive in Pennsylvania. Maryland: Canton, on chrome ore piles. June 22, 1954. Reed 33379; June 1956. Reed 38819; June 1957. Reed 38805. Culms branching and spreading at the base, 20-40 cm. tall; blades rather rigid, sharp-pointed, spreading; spike 3 to 4 cm. long, 2 or 3 of the lower spikelets often reduced, the fertile spikelets 3 to 5; glumes with 3 strong scabrous somewhat spreading awns, 4 to 8 cm. long; lemmas with three rigid unequal awns.

214. Agrostis alba L. Native of Eurasia; Newfoundland to Yukon, south to Georgia, etc. Maryland: Canton, on chrome ore piles. June 1957. Reed 38802; on manganese ore piles. Aug. 9, 1961. Reed 52150.

215. Agrostis capillaris L. Native of Europe. (Related to A. tenuis Sibth.). Maryland: Canton, on chrome ore piles. Aug. 1959. Reed 44362.

216. Agrostis palustris Huds. Eurasia; Maine to Virginia, west to Wisconsin and Illinois, British Columbia, Washington and Idaho, California and Texas. Maryland: Canton, on pumice piles, from Islands off Italy. Aug. 20, 1963. Reed 65421.

217. Alopecurus myosuroides Huds. Adventive from Europe; Massachusetts to Michigan, south to North Carolina and Kansas. Maryland: Canton, on chrome ore piles. June 1954. Reed 33381 and 33397.

218. Andropogon pertusus (L.) Willd. Introduced from the Old World; West Indies; Mississippi. Maryland: Canton, on chrome ore piles. Nov. 1958. Reed 41889 (US).

219. Andropogon virginicus L. A common weed from Massachusetts to Florida; common between the chrome ore piles at Canton. Oct. 25, 1954. Reed 35220; Oct. 4, 1957. Reed 39563.

APLUUDA L. Tall slender perennial leafy grasses; stems geniculate, base creeping or decumbent, branched above; leaves narrow petioled, upper ones spathe-like, mucronate; spikes numerous, very small, solitary, simple, on the ends of the branches, each enclosed in a membranous peduncled spathe, of one joint; spikelets 3, one sessile 2-flowered, bisexual, one pedicelled imperfect and one terminal male; sessile spikelets on the bulbous base of the rachis; glumes 4; stamens 3; anthers short; stigmas plumed, free.

220. Apluda mutica L. (A. aristata L.) Native of China, East Indies, and South Africa, India and Malaya to Hawaii. Maryland: Canton, on chrome ore piles. Oct. 14, 1958. Reed 41138; Oct. 28, 1958. Reed 41350 (US). (Description in Collett, Flora Simlensis, p. 598 sub Apluda aristata Hack. 1902; in Hook., Fl. Brit. India, 7: 150, sub A. varia, 1897).

221. Aristida adscensionis L. Originally described from Ascension Island; a common weed in the American tropics from Argentina northward to southern California and Nevada, eastward to Texas, southern Kansas and Missouri. Maryland: Canton, on chrome ore piles. Sept. 1953. Reed 32752 and 32826.

222. Arthraxon hispidus (Thunb.) Makino. Introduced from the Orient; Pennsylvania and Maryland to Florida, west to Missouri and Louisiana. Maryland: Canton, on chrome ore piles. Oct. 14, 1958. Reed 41128; Cub Hill, Baltimore, in fields. Oct. 1953. Reed 33143; Nov. 16, 1961. Reed 53750.

223. Avena fatua L. Introduced from Europe; rare in eastern United States, Maine to Pennsylvania, Maryland, Missouri and westward; a common weed on the Pacific Coast. Maryland: Canton, on chrome ore piles. June 1954. Reed 33426.

224. Avena sativa L. Commonly cultivated and escaped. Maryland, Canton, on chrome ore piles. June 1954. Reed 33425 and Nov. 1958. Reed 41719.

225. Bouteloua aristidoides (HBK) Griseb. Native of Texas to Nevada, southern California and northern Mexico; Argentina. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32727. Annual, erect or spreading, branching; culms slender, 10-30 cm. tall; blades small and few, in vigorous plants as much as 15 cm. long; spikes mostly 8-14 on a slender axis, reflexed, readily falling, the base of the rachis forming a sharp, bearded point; spikelets 2-4, narrow, appressed; rudiment of 3 scabrous awns about 5 mm. long, exceeding the fertile floret.

226. Bouteloua barbata Lag. Native from Texas and Colorado to Nevada and southeastern California and Mexico. Maryland: Canton, on chrome ore piles. Sept. 1953. Reed 32824. Annual, tufted, branching, erect to prostrate, often forming mats with ascending ends, the culms as much as 30 cm. long; foliage scant; blades 1-4 cm. long, 1-1.5 mm. wide; spikes 4-7, 1-2 cm. long; spikelets 25-40, 2.4-4 mm. long, nearly as broad; fertile lemma densely pilose at least along the sides, usually throughout, the awns from minute to as long as the body, the intermediate lobes subacute to obtuse; rudiment from obscurely to conspicuously bearded at summit of rachilla joint, cleft nearly to the base, the intermediate lobes broad, suboculate, the awns of rudiment and fertile lemma reaching about the same height, a second rudiment, broad and awnless, often developed.

227. Brachiaria distichophylla (Trin.) Stapf. Native of West Tropical Africa, where it is a common wayside grass, loosely tufted, occasionally half-creeping and forming a carpet. Virginia: Newport News, on chrome ore piles. Aug. 1959. Reed 44062 (US); on iron ore piles. Nov. 1959. Reed 45863. Annual, 12-30 cm. tall, culms very slender, terete, geniculate, usually ascending from a decumbent or prostrate stem, rooting at base, often much branched below, 5- to many-times noded, the uppermost internode usually very long, pubescent, rarely glabrous; leaf-sheaths more or less herbaceous, rather tight, those supporting a branch slipping off the internode and rolling round the branch, finely striate, more or less pubescent, sometimes densely so, or finely hirsute, rarely glabrous; ligules reduced to a narrow ciliate rim; blades lanceolate or linear-lanceolate from a suddenly contracted rounded base, gradually tapering from very low down to an acute point, 2.5-4 cm. long, rarely longer, rather stiff and somewhat succulent, green, glabrous or more or less pubescent, margins markedly cartilaginous and usually cuspid downwards, spinulosely ciliolate to serrulate, primary lateral nerves 3-4 on each side, very fine and differentiated from the numerous and close secondary nerves only below, midrib very slender; panicle at length long-exserted, secund, 3.5-7 cm. long, of 4-8 obliquely spreading or almost horizontal distant solitary slender spike-like mostly single racemes; common axis very slender, terete, terminating with a spikelet; racemes straight or slightly curved, the lowest 1-3 cm. long, gradually decussing upwards, simple or very rarely slightly compounded at base with very short and scanty secondary racemes; lower florets neuter; upper floret male and female, slightly shorter than the lower, or equalling it; glumes very unequal.

228. Brachiaria erucaeformis (J.E.Smith) Griseb. in Ledeb. Native of Old World, occasionally cultivated in grass gardens. Maryland: Canton, on chrome ore piles. Sept. 1953. Reed 32763; Sept. 1958. Reed 41216; Oct. 14, 1958. Reed 41141 (US). Spreading annual, with rather delicate erect racemes and pubescent spikelets 2.5 mm. long.

229. Brachiaria subquadripara (Trin.) Hitchc. Asia; Mariana Islands; occasionally planted in southern Florida. Maryland: Canton, on chrome ore piles. Sept. 1958. Reed 41296; Sept. 1948. Reed 41318 (US); Nov. 1958. Reed 41900; on many chrome ore piles in Aug. 1959. Reed 44367. Creeping leafy perennial; culms 25-60 cm. long; blades flat, 5-10 cm. long, 4-8 mm. wide; racemes mostly 3-5, spreading, rather distinct; spikelets 3.5 to 4 mm. long, elliptic, glabrous.
230. Bromus commutatus Schrad. Maryland: Canton, on chrome ore piles. June 22, 1954. Reed 33423.
231. Bromus rigidus Roth. Maryland: Canton, on chrome ore piles. June 22, 1954. Reed 33376 and 33378.
232. Bromus tectorum L. Maryland: Canton. May 22, 1958. Reed 40407.
233. Cenchrus echinatus L. Common weed in tropical America; South Carolina to southern California; sparingly introduced to Hawaii and Malaysia. Maryland: Canton, on chrome ore piles. Oct. 1954. Reed 35205. Annual; culms compressed usually geniculate, branching at base, 25-60 cm. long; blades 3-8 mm. wide, pilose on the upper surface near the base; raceme 3-10 cm. long, the burs larger, fewer and less crowded than in C. brownii; bur 4-7 mm. high, as broad or broader, pubescent, the lobes of the involucre erect or bent inward but not interlocking; spikelets usually 4 in each bur.
234. Cenchrus incertus M.A.Curtis. Native on the Coastal Plain, from southeastern Virginia and North Carolina, west to California, and south to Mexico, Central and South America, and in West Indies; South Africa (weed). Maryland: Canton, on chrome ore piles. Sept. 19, 1958. Reed 41332. Det. D.G.DeLisle (See Iowa State Journ. Sci. 37(3): 308-316, fig. 15. 1963).
235. Cenchrus longispinus (Hack.) Fern. Ontario, southward throughout United States to Mexico, Central America and West Indies; Bermuda; locally naturalized in western Europe, South Africa and Australia. Common in the wastes of Port of Newport News, in RR yards, Virginia. Reed 44079 and 44083. Det. D.G.DeLisle (See Iowa State Journ. Sci. 37(3): 294-301, fig. 10. 1963).
236. Chloris virgata Swartz. Native from Nebraska to Louisiana, Texas and southern California; also Ohio, Indiana, Maryland to Florida; tropical America. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32714; Oct. 25, 1954. Reed 35239; Oct. 31, 1957. Reed 39442.

237. Cinna arundinacea L. Maine and Ontario to Minnesota and South Dakota, south to Georgia and Texas. Maryland: Canton, on chrome ore piles. July 15, 1960. Reed 46730.

CORIDOCHLOA Nees Spikelets flattened, ovate, in 2's or 3's, subsessile along a slender rachis; glumes and sterile lemma papery, the second glume stiffly ciliate; fruit stipitate, concavo-convex, awned; annual, with several digitate racemes, naked at the base.

238. Coridochloa cimicina (L.) Nees ex Jacks. Native of southern Asia; sparingly introduced in Florida. Maryland: Canton, on chrome ore piles. Oct. 14, 1958. Reed 41139. Culms 20-60 cm. tall; sheaths hispid; blades 3-8 cm. long, 1.5-2.5 cm. wide, subcordate; racemes mostly 4-8, digitate, sometimes a second whorl below; spikelets about 3 mm. long, the awn of the fruit curved, about 1 mm. long.

239. Cynodon dactylon (L.) Pers. Naturalized from Europe; St. P. et Miq., Massachusetts to Michigan, Iowa and eastern Kansas, southward, where abundant. Maryland: occasional in Canton on chrome ore piles. Sept. 1953. Reed 32784; Oct. 1953. Reed 32914; Sept. 19, 1958. Reed 41328 and 41321; Nov. 23, 1958. Reed 41742; on manganese ore piles. Aug. 9, 1961. Reed 52151.

240. Dactyloctenium aegyptium (L.) Beauv. (1812; Richter made same combination in 1890, using the same basynym). Introduced from the Old World Tropics, from North Carolina to Florida and Texas; occasional north to Maine, New Jersey, Illinois, Colorado, Arizona, California; tropical America. Maryland: Canton, common on chrome ore piles since 1953, collected every year, becoming weedy. Sept. 1953. Reed 32718 and 32720; Sept. 1958. Reed 41335 (US) and 41343 (US); July 1959. Reed 43634 and 43837; on manganese ore piles. Oct. 1959. Reed, many collections; Sept. 1960. Reed 48058; Oct. 1961. Reed 53668. Virginia: Newport News, on chrome ore piles. Nov. 1959. Reed 45913, 43892 and 45883.

241. Dactyloctenium geminatum Hook. Native in sandy soils on the coast of Zululand, in brackish soils in eastern Transvaal. (Chipindall, The Grasses and Pastures of South Africa, p. 131. 1955). Maryland: Canton, on chrome ore piles. Sept. 19, 1958. Reed 41336 and 41337; Nov. 23, 1958. Reed 41901 (US). A stoloniferous perennial with culms up to 70 cm. high; spikes 2-3, more rarely 1, 2.5-6 cm. long; spikelets 3-4 mm. long, 3-5-flowered; keel of the lemma and the rachis smooth; lemmas usually awnless; leaves glabrous or with a few tubercle-based hairs.

242. Digitaria longifolia (Retz.) Pers. Tropical regions of the Old World; introduced from Tropical America into southern Florida. Maryland: Canton, on chrome ore piles. Oct. 1958. Reed 41134.

243. Digitaria ischaemum (Schreb.) Schreb. ex Muhl. Virginia: Newport News. Common on chrome ore piles. Aug. 1959. Reed 44059; on iron ore piles. Nov. 1959. Reed 45858.

244. Digitaria sanguinalis (L.) Scop. Maryland: Canton, common on chrome ore piles, many collections between 1953 and 1960; on manganese ore piles. Oct. 1959. Reed 45693.

245. Digitaria adscendens Henr. Native of tropical regions of the World. Maryland: Canton, on manganese ore from the Yamatogo Maru from India, Clinton Street. Aug. 20, 1963. Reed 65409 (US).

DINEBRA Jacq. Inflorescence of 2 to many one-sided spikes, or spike-like racemes, much reduced so that the spikelets are in small clusters on the central axis; glume acuminate or tapering into awns, as long as or longer than the rest of the spikelet; rachis of all or of the spikes short and greatly reduced; ligule a membrane.

246. Dinebra retroflexa (Vahl) Panzer. Native of Bechuanaland and the Transvaal. (Chippindall, l.c., pp. 185-186, f. 160. 1955). Maryland: Canton, on chrome ore piles. Oct. 14, 1958. Reed 41155. Annual, with culms up to 80 cm. tall; leaf-blades expanded, glabrous or loosely hairy; ligule a membrane; inflorescence 8-30 cm. long, of numerous short spikes on a central axis; the flattened rachis of the spikes often short or greatly reduced, especially upwards, so that the spikelets are more or less clustered on the central axis and the inflorescence is narrow, dense and spike-like; spikelets 5-8 mm. long, 2-3-flowered, glabrous; glumes about equal, usually much longer than the rest of the spikelet, acuminate or tapering into short awns; lemmas 3-nerved, awnless.

247. Echinochloa colonum (L.) Link. Adventive and naturalized from the Old World; Florida to Texas and Mexico; locally north to New England, Ohio, Pennsylvania and Illinois. Maryland: Canton, rather common on chrome ore piles, collected many times up to 1960; on manganese ore piles. Aug. 1959. Reed 44351. Virginia: Newport News, on chrome ore piles. Aug. 1959. Reed 44055 and Nov. 1959. Reed 45896; on iron ore piles. Nov. 1959. Reed 45860.

248. Echinochloa crus-galli (L.) Beauv. New Brunswick to Washington, south to Florida and California; Eastern Hemisphere. Maryland: Canton, common on wastes between chrome ore piles. Aug. 1959. Reed 44385.

249. Echinochloa crus-galli var. mitis (Pursh) Peterm. Distributed over the same area as the typical form, and nearly as common. Maryland: Canton, on chrome ore piles. July 19, 1958. Reed 40886; Sept. 6, 1958. Reed 41290; Aug. 1959. Reed 44386; Locust Point. July 1959. Reed 43827. Racemes dense, mostly somewhat spreading-flexuous; spikelets awnless or nearly, the awns less than 3 mm. long; basal sheaths occasionally hirsute.
250. Echinochloa crus-galli var. zelayensis (HBK) Hitchc. Mexico to Argentina; Oklahoma to Oregon, south to Texas and California. Maryland: Canton, on chrome ore piles. Oct. 25, 1954. Reed 35237. Differs from var. mitis in having less succulent culms, mostly simple, more or less appressed racemes, the spikelets less strongly hispid but papillose, usually green.
251. Eleusine indica (L.) Gaertn. Naturalized from the Old World; Quebec to Minnesota and South Dakota, and southward. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32718 and 32720; Oct. 1954. Reed 35192 and 35195; Sept. 1958. Reed 41293; Nov. 1958. Reed 41724 (depauperate form); on pumice piles, from Island off Italy. Aug. 20, 1963. Reed 65415.
- ENNEAPOGON Desv. ex Beauv. Spikelets 3-flowered, the first floret fertile, the second smaller, sterile, the third rudimentary; glumes strongly 7-nerved; lemmas rounded on the back, firm, the truncate summit bearing 9 plumose equal awns; palea a little longer than the body of the lemma, the keels near the margin; slender tufted perennials, with narrow feathery panicles.
252. Enneapogon desvauxii Beauv. Utah and Texas to Arizona, south to Mexico (Oaxaca), Peru, Bolivia and Argentina. Maryland: Canton, on chrome ore piles. Oct. 1953. Reed 32907; Nov. 1953. Reed 33002. Culms numerous, slender, decumbent-spreading, 20-40 cm. tall, the nodes pubescent; blades flat to subinvolute, about 1 mm. wide; panicle spike-like, gray green or drab, mostly 2-5 cm. long, sometimes interrupted below; glumes longer than the body of the lemmas, 7-nerved, acuminate, pubescent; lemma of first floret (incl. awns) 4-5 mm. long, the body about 1.5 mm. long, villous, 9-nerved, the awns plumose, except at the apex.
253. Eragrostis atherstonii Stapf. Native of South Africa and south Tropical Africa (n. Cape, Orange Free State, Transvaal, SW Africa). (Chippindall, l.c., p. 150, fig. 116. 1955). Maryland: Canton, on manganese ore piles. Sept. 1958. Reed 41334; Aug. 1959. Reed 44383; Oct. 1959. Reed 45694. Perennial, tufted, erect or stoloniferous, forming dense stands; culms up to 70 cm. tall, simple or branched, straight or repeatedly geniculate or prostrate and rooting at nodes, few to many noded, usually glabrous, very occasionally with a few hairs; leaf-sheaths pallid or purplish, more or less papery, nerves with small

glandular dots above the node, and below the collar; collar pallid, smooth, or often with a few purplish glandular dots; leaf-blade loosely rolled or expanded, some nerves much finer than others, seen from below, usually with glandular dots especially above the collar; inflorescence 5-20 cm. long and 2-7 cm. wide, usually narrowly ovate in outline, lower branches, and often branches higher up, whorled, whorls with a tuft of spreading hairs; spikelets about 5 mm. long, 1-1.5 mm. wide, usually 3-5-flowered, silvery-gray to greenish-gray in color; lower glume equal or subequal to the lower floret, silvery-gray, thinly membranous, acute to acuminate, often wrinkled on the back; lemmas acute, dark gray with white, thin, membranous tips; anthers about 0.7 mm. long; grains about 0.7 mm. long, oblong, slightly grooved on the back, embryo very dark green to blackish.

255. Eragrostis barrelieri Daveau. Introduced from southern Europe; Colorado and Kansas to Texas and California and Mexico. Maryland: Canton, on manganese ore piles. July 1959. Reed 43639 and 43644 (US); July 1960. Reed 46736; Aug. 9, 1961. Reed 52147. Annual; culms erect or decumbent at base, 20-50 cm. tall, branching at base, sometimes with a glandular band below the nodes; sheaths pilose at the summit; blades flat, rather short, 2-4 mm. wide; panicle erect, open but narrow, 8-15 cm. long, the branches ascending or stiffly spreading, few-flowered, spikelet-bearing nearly to base, the axils glabrous; spikelets linear, usually 12- to 15-flowered, mostly about 1 cm. long and 1.5 mm. wide; lemmas 2 mm. long or slightly longer.

256. Eragrostis horizontalis Peter. Native of South Tropical Africa, to N. Transvaal, SW Africa and Bechuanaland. Maryland: Canton, Newkirk Street, on manganese ore piles. Aug. 9, 1961. Reed 52149. Agreeing in most respects with E. atherstonei Stapf, but not a distinct perennial and with slender culms; the sheaths usually somewhat keeled and conspicuously glandular (usually more so than in E. atherstonei), while the basal branches of the inflorescence have a tuft of hair in the axils of, or between the branches, but not in a ring right round. (Chippindall, l.c., p. 150, fig. 117. 1955).

257. Eragrostis cilianensis (All.) Lutati. Introduced from the Old World; Maine to Washington, south throughout United States and West Indies, south to Argentina. (E. megastachya (Koel.) Link, in Fernald, 8th Ed., p. 124). Maryland: Canton, frequent on chrome ore piles. Sept. 1953. Reed 32711; Oct. 1953. Reed 32893; Oct. 1954. Reed 35201 and 35214; Nov. 1958. Reed 41725; Locust Point. July 1959. Reed 43821.

258. Eragrostis curvula (Schrad.) Nees. Widespread in South Africa; introduced by cultivation, spontaneous in Florida, Texas and Arizona; useful in erosion control and revegetation of grasslands in SE United States. Maryland: Canton, on chrome ore piles. Sept. 1958. Reed 41341. Culms 60-120 cm. tall, densely tufted,

erect, simple or sometimes branching at the lower nodes; sheaths narrow, keeled, glabrous or sparsely hispid, the lower densely hairy toward the base; blades elongate, involute, attenuate to a fine point, arcuate spreading, scabrous; panicles 20-30 cm. long, the branches solitary or in pairs, ascending, naked at the base, at least the lower densely pilose in the axils; spikelets 7- to 11-flowered, 8-10 mm. long, gray green; lemmas about 2.5 mm. long, obtuse or subacute, the nerves prominent.

259. Eragrostis diffusa Buckl. Wyoming, Idaho, Oklahoma and Texas to Nevada, California and Mexico; introduced occasionally in eastern United States. Maryland: Canton, on chrome ore piles. Sept. 1953. Reed 32750, 32770 and 32785; Oct. 1953. Reed 32908 (panicle fewer-flowered than typical plants); Oct. 1954. Reed 35206, 35224, 35245 A and B, and 35236. More robust than E. pectinacea, usually 30-50 cm. tall, sometimes taller; panicle larger, the primary branches bearing appressed secondary branchlets with few to several spikelets, the main panicle branches thus more densely flowered.

260. Eragrostis pectinacea (Michx.) Nees. Maryland: Canton, on chrome ore piles, on manganese ore piles; in wastes at Locust Point; common and frequently collected in this area. Virginia: Newport News, on chrome ore piles.

261. Eragrostis pilosa (L.) Beauv. Maryland: Canton, on chrome ore piles. Nov. 1958. Reed 41360; on pumice piles, from Island off Italy. Aug. 20, 1963. Reed 65416. Virginia: Newport News, on ore piles. Aug. 1959. Reed 44061 and 44057.

262. Eragrostis poaeoides Beauv. ex Roem. & Schult. Maryland: Canton, on chrome ore piles. Sept. 1953. Reed 32713 and 32792. Virginia: Newport News, on chrome ore piles. Nov. 1959. Reed 45916.

263. Eragrostis unioloides (Retz.) Nees in Steud. Introduced from southern Asia; Georgia and Florida. Maryland: Canton, on chrome ore piles. Oct. 1958. Reed 41130; Nov. 1958. Reed 41746. Annual; culms erect or ascending, 20-40 cm. tall; blades flat, 2-4 mm. wide; panicle elliptic, open, 10-50 cm. long, about half as wide, the branches ascending; spikelets ovate-oblong, strongly compressed, truncate at base, obtuse, 15- to 30-flowered, 5-10 mm. long, 3 mm. wide, often pink or purplish; lemmas closely imbricate, nearly horizontally spreading, strongly keeled, acute, 2 mm. long, the lateral nerves prominent; palea falling with the lemma or soon thereafter; grain about 0.7 mm. long.

264. Eriochloa gracilis (Fourn.) Hitchc. Oklahoma and western Texas to southern California, south through the highlands to Mexico. Maryland: Canton, on chrome ore piles. Sept. 27, 1953.

Reed 32728. Annual; culms erect or decumbent at base, 40-100 cm. tall; blades flat, glabrous, mostly 5-10 mm. wide; racemes several to numerous, approximate, ascending to slightly spreading, 2-4 cm. long, the axis and rachis softly pubescent, the pedicels short-pilose; spikelets 4-5 mm. long, rather sparsely appressed-pubescent, acuminate, or the glume sometimes tapering into an awn-point as much as 1 mm. long; sterile lemma empty; fruit about 3 mm. long, apiculate.

265. Eriochloa punctata (L.) Desv. Southwestern Louisiana to southern Texas; American Tropics. Maryland: Canton, on chrome ore piles. Aug. 1959. Reed 44369 and 44368; on manganese ore piles. Oct. 1959. Reed 45701. Perennial; culms in tufts, usually 50-100 cm. tall; blades flat, mostly 5-10 mm. wide, glabrous; racemes several, ascending, overlapping, 3-5 cm. long, the axis rachises and pedicels scabrous only; spikelets 4-5 mm. long, lanceolate, rather sparsely appressed-pilose; glume tapering to an awn-point about 1 mm. long; sterile lemma a little shorter than the glume, empty; fruit about half as long as the glume, with an awn 1 mm. long or more.

HACKELOCHLOA Kuntze Spikelets awnless, in pairs, the rachis joint and pedicel grown together, the two clasped between the edges of the globose alveolate first glume of the sessile spikelet; pedicellate spikelet conspicuous, staminate; freely branching annual with flat blades, the numerous racemes solitary and more or less enclosed in the spathes, these usually fascicled in the axils of the leaves.

266. Hackelochloa granularis (L.) Kuntze. Native of East Indies and West Africa; in tropics of both hemispheres; introduced in North America, Georgia and Florida to Louisiana; New Mexico to Arizona. Maryland: Canton, on chrome ore piles. Oct. 1958. Reed 41122. Culms 30-100 cm. tall; sheaths papillose-hispid; blades flat, 5-15 cm. long, 3-15 mm. wide, papillose-hispid, ciliate; racemes 1-2 cm. long; sessile spikelets about 1 mm. thick; pedicellate spikelets about 2 mm. long.

267. Holcus lanatus L. Introduced from Europe. In Canton, on chrome ore piles. June 1954. Reed 33393.

268. Hordeum hystrix Roth. Introduced from Europe; Utah to British Columbia, Arizona and California; adventive in Massachusetts, New Jersey and Pennsylvania. Maryland: Canton, on chrome ore piles. June 1954. Reed 33396; June 1957. Reed 38806. Annual; culms freely branching and spreading or geniculate at base, 15-40 cm. tall; sheaths and blades, especially the lower, more or less pubescent, the auricle wanting; spike erect, 1.5-3 cm. long, 10-15 mm. wide, the axis usually not readily breaking; glumes setaceous, rigid, nearly glabrous to scabrous, about 12 mm. long; lemma of central spikelet 5 mm. long, the awn somewhat longer than the glumes; floret of lateral spikelets reduced, short-awned.

269. Hordeum leporinum Link. Introduced from southern Europe; Massachusetts to Georgia; Vancouver Island and Washington to California, Utah and Texas. Maryland: Canton, on chrome ore piles. June 1954. Reed 33380, 33403, 33404 and 33409. Annual; branching at base, spreading; sheaths glabrous, blades pilose to glabrous; auricle at base of blade well-developed; spike 5-9 cm. long, often partly enclosed by the inflated uppermost sheath, the rachis internodes mostly 3 mm. long; glumes of the central spikelet lanceolate, 3-nerved, long-ciliate on both margins, the nerves scabrous, the awn 2-2.5 cm. long; floret 1-1.2 cm. long, raised on a rachilla segment 1 mm. long, the awn 3-4 cm. long; lateral spikelets usually staminate, the glumes much shorter, unlike, the inner similar to those of the central one, the outer setaceous, not ciliate, the lemma broad, 10-20 mm. long, the awn 2-4 cm. long.

270. Hordeum vulgare L. Barley, adventive from grain fields. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32825.

ISCHAEMUM L. Sessile spikelets perfect, awned; pedicellate spikelets perfect but not always fruitful; rachis disjuncting; raceme 2 to several, digitate or aggregate on a short axis; culms branching with flat blades and digitate or flabellate inflorescences with prominent awns.

271. Ischaemum ciliare Retz. Introduced from Old World; Panama; British Guiana. Maryland: Canton, on chrome ore piles. Nov. 23, 1958. Reed 43130. Slender much-branched perennial, with creeping rooting bases; fertile culms 30-60 cm. tall; blades flat, 3-10 cm. long, 4-8 mm. wide; racemes usually 2, 3-5 cm. long, green, finally spreading; spikelets about 4 mm. long; first glume broadly winged at the summit, smooth across the back, longitudinally striate above; awn 5-8 mm. long.

272. Ischaemum rugosum Salis. Introduced from Old World; Panama, Cuba and Jamaica. Maryland: Canton, on chrome ore piles. Oct. 14, 1958. Reed 41133, 41126; 41162; Nov. 4, 1958. Reed 41363; Nov. 23, 1958. Reed 43131 and 43132. Branching annual; culms 0.5-1 m. tall; geniculate below; nodes bearded; blades flat, 8-12 mm. wide, sparsely pilose; racemes 5-10 cm. long, erect, so closely appressed to each other as often to appear like a single spike; spikelets 3-4 mm. long, obtuse, the awn about 1.5 cm. long; first glume strongly rugose across the back.

273. Koeleria phleoides (Vill.) Pers. Introduced from Europe; Pensacola, Florida; Mobile, Alabama; Cameron Co., Texas; Portland, Oregon; several places in California; cultivated in nursery plots in Beltsville, Maryland; and Tucson, Arizona. Maryland: Canton, on chrome ore piles. June 10, 1957. Reed 38798. Annual; culms 15-30 cm. tall, smooth throughout; sheaths and blades sparsely pilose; panicle dense, spike-like, 2-7 cm. long, obtuse; spikelets

2-4 mm. long; glumes acute; lemmas short-awned from a bifid apex; glumes and lemmas in the typical form papillose-hirsute on the back, but commonly papillose only.

274. Leptochloa dubia (H.B.K.) Nees. Southern Florida; Oklahoma and Texas to Arizona, south through Mexico; Argentina. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32751. Perennial; culms wiry, erect, 50-100 cm. tall; sheaths glabrous; blades flat or sometimes folded or loosely involute, scabrous, as much as 1 cm. wide, usually narrower; panicle of few to many spreading or ascending racemes, 3-12 cm. long, approximate or somewhat distant on an axis as much as 15 cm. long; spikelets 5- to 80-flowered (or in reduced specimens only 2-flowered), 5-10 mm. long; lemmas broad, glabrous on the internerves, obtuse or emarginate, the midnerve sometimes extending into a short point, the florets at maturity widely spreading, very different in appearance from their early phase.

275. Leptochloa uninervia (Presl) Hitchc. & Chase. Mississippi to Texas; Colorado and New Mexico to Oregon and California, south to Mexico; Peru to Argentina; North Carolina and introduced in Maine, Massachusetts and New Jersey. Virginia: Newport News, on chrome ore piles. Aug. 1959. Reed 44052 (US); on manganese ore piles. Nov. 1959. Reed 45867.

276. Lolium multiflorum Lam. Naturalized from Europe; Newfoundland to Alaska, south to Virginia and California and southward. Italian rye-grass. Maryland: Canton, on chrome ore piles, Oct. 1958. Reed 41174. Probably the same, though identified and labelled as L. multiflorum var. italicum (A.Br.) Beck. June 1954. Reed 33412-14, from same area.

277. Lolium perenne L. Newfoundland to Alaska, south to Virginia and California, and southward. Maryland: Canton, on chrome ore piles. June 1954. Reed 33377, 33385 and 33402; Oct. 1958. Reed 41176.

278. Lolium temulentum L. Adventive from Europe; Quebec and New England to Minnesota, Missouri and Kansas, south to Gulf; Pacific States. Maryland, Canton, on chrome ore piles. June 1954. Reed 33383.

279. Microstegium vimineum (Trin.) A.Camus. Native of Asia. Maryland: Cub Hill, Baltimore Co., in rock garden and fields, persistent since 1961. Oct. 19, 1961. Reed 53670 (US); Nov. 16, 1961. Reed 53749; Nov. 1962. Reed 59912; Oct. 20, 1963. Reed 64721 (SABC). Although Hitchcock and Chase (1951, Man. Grasses of U.S., p. 748) list this species from Virginia, North Carolina, Kentucky, Ohio, Tennessee and Alabama, and the var. imberbe (Nees) Honda from Berks Co., Pennsylvania and Greenville, Virginia, neither Fernald, in the 8th Edition of Gray's Manual, nor Gleason, in the New Britton & Brown, Illustrated Flora mention this genus or species. A description and illustration are provided in Hitchcock and Chase, fig. 1137, p. 748. 1951.

280. Muhlenbergia asperifolia (Nees & Mey.) Parodi. Indiana and Alberta to British Columbia, south to Texas, California and Mexico; southern South America; New York. Maryland: Frederick, in RR yards, Frederick Co. Sept. 12, 1959. Reed 45642 and 45645.
281. Oryzopsis miliacea (L.) Benth. Native of Mediterranean region; introduction in California; ballast, Camden, New Jersey; Philadelphia, Pennsylvania. Maryland: Canton, on pumice piles, from Islands off Italy. Aug. 20, 1963. Reed 65422.
282. Panicum adpersum Trin. Native of West Indies; introduced on ballast at Philadelphia, Pennsylvania; Camden, New Jersey; Mobile, Alabama. (Hitchc. & Chase, l.c., p. 682. 1951). Virginia: Newport News, on chrome ore piles. Aug. 1959. Reed 44046 (US); Nov. 1959. Reed 45871.
283. Panicum dichotomiflorum Michx. Nova Scotia and Maine to Minnesota, south to Florida, Texas, California and Mexico; West Indies. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32748; Oct. 1954. Reed 35219; Sept. 1958. Reed 41340; Oct. 1958. Reed 41178.
284. Panicum capillare L. Maine to Montana, south to Florida and Texas, and westward. Witch-grass. Maryland: Canton, on chrome ore piles. Oct. 1954. Reed 35216; Sept. 1957. Reed 39333; Oct. 1958. Reed 41182; Locust Point, wastes. July 1959. Reed 43824.
285. Panicum capillare var. occidentale Rydb. P.E.I. and Quebec to British Columbia, south to New Jersey, Maryland, Missouri, Texas and California. Maryland: Canton, on chrome ore piles. Oct. 1957. Reed 35246.
286. Panicum paludosum Roxb. (As Panicum proliferum Lam. in Hooker, Fl. Brit. India, 7: 50. 1897). Native of Pacific Islands; Okinawa; India, Ceylon, Assam. Maryland: Canton, on chrome ore piles. Nov. 1958. Reed 43133. Perennial; stem 6-9 dm. or more; lower nodes spongy, about 1 cm. in diameter; leaves 15-30 cm. long, 1-2 cm. wide, base broad but hardly cordate; sheaths loose; ligule a ridge of hairs; panicle 15-25 cm. long, often nearly as broad, lower branches whorled and fascicles, trigonous, scaberulous; spikelets green, variable in size, terete, palea of glume III absent, or minute, or linear, neuter or male, rarely bisexual.
287. Panicum psilopodium Trin. Native of China, Sikkim, Macao, India and Ceylon. Maryland: Canton, on chrome ore piles. Nov. 1958. Reed 46012. Annual; stems rather slender, simple or branched, 30-60 cm. tall, leafy to the panicle; leaves narrow, acuminate,

glabrous, 7-20 cm. long, 0.5-0.8 cm. wide; sheaths glabrous or hairy; panicle 5-10 (20) cm., rather compact or loose, pedicels slender, as long as the spikelets; spikelets about 3 mm. long, green or purplish; glume I ovate, broader than long, one-half length of III or shorter, 3-5-nerved, II ovate acuminate, 9-11-nerved, III as long, IV oblong or rounded, obtuse, shining dark brown.

288. Panicum reptans L. Tropical regions of both hemispheres; Florida to Texas. Maryland: Canton, on chrome ore piles. Sept. 1959. Reed 45680; Oct. 1959. Reed 45805 and 45811. Culms ascending 10-30 cm. above the creeping base; blades 1.5-6 cm. long, 4-12 mm. wide, cordate, usually glabrous, ciliate on the undulate margin at base; panicle 2-6 cm. long, the 3-12 ascending or spreading racemes 2-3 cm. long, aggregate, the rachis usually pilose with long weak hairs; spikelets secund, about 2 mm. long, glabrous, on pubescent or pilose pedicels about 1 mm. long; first glume very short, truncate or rounded.

289. Panicum purpurascens Raddi. Throughout tropical America at low altitudes; probably in Brazil at an early date from Africa; Florida, Alabama, Texas; Oregon. Para Grass. Maryland: Canton, on chrome ore piles. Nov. 1958. Reed 41741. Culms decumbent and rooting at base, 2-5 m. long, the nodes densely villous; sheaths villous or the upper glabrous, densely pubescent on the collar; blades 10-30 cm. long, 10-15 mm. wide, flat, glabrous; panicle 12-20 cm. long, the rather distant subracemose densely flowered branches ascending or spreading; spikelets sessile, 3 mm. long, elliptic, 5-nerved, glabrous; fruit minutely transversely rugose.

290. Panicum ramosum L. Tropical Asia; cultivated as a bird feed; North Carolina to Florida, Arkansas and Louisiana. Maryland: Canton, on chrome ore piles. Sept. 1958. Reed 41223. Pedicels bristly; spikelets glabrous to finely pubescent, about 3 mm. long, tawny or dull brown; otherwise resembling P. fasciculatum var. reticulatum (Torr.) Beal. (New Mexico and Arizona; Mexico).

291. Panicum scoparium Lam. Native from Massachusetts to Florida, west to Kentucky and Missouri, Oklahoma and Texas; Cuba. Virginia: Newport News, on chrome ore piles. Aug. 1959. Reed 44048; Nov. 1959. Reed 45877.

292. Panicum verrucosum Muhl. Native from Massachusetts to Florida, west to Michigan, Kentucky, Arkansas and Texas. Virginia: Newport News, on iron ore piles. Nov. 1959. Reed 45858.

293. Parapholis incurva (L.) C.E.Hubb. Adventive from Europe; New Jersey and Pennsylvania to Virginia; California and Oregon. (Pholiurus incurvus (L.) Schinz & Thell., in Fernald, 8th ed., p. 133). Sickle-grass. Maryland: Canton, on chrome ore piles. June 1954. Reed 33407.

294. Paspalum convexum Humb. & Bonpl. ex Willd. Texas (Jasper Co.); northern Mexico to Brazil; Cuba; Trinidad. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32810. (Originally reported as P. circulare Nash, see Reed, Rhodora 56: 179. 1954).
295. Paspalum dilatatum Poir. in Lam. Dallas-grass. Introduced and naturalized from the tropics; Florida to California, north to Virginia, Maryland and Tennessee. Maryland: Canton, on chrome ore piles. Sept. 6, 1958. Reed 41291 and Sept. 19, 1958. Reed 41317; Nov. 23, 1958. Reed 41723.
296. Paspalum distichum L. West Indies; Mexico south to Argentina; Florida to California, north to southeastern Virginia, Maryland, Tennessee, Arkansas, Oklahoma, Utah and Washington. Knot-grass. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32749.
297. Paspalum floridanum Michx. var. glabratum Engelm. ex Vasey. Southern New Jersey to central Florida, west to Kentucky, Illinois, southeastern Kansas and Texas. Maryland: Canton, on chrome ore piles. Sept. 24, 1957. Reed 39552.
298. Paspalum orbiculatum Forst. Southern Mexico and the West Indies to Paraguay. Maryland: Canton, on chrome ore piles Oct. 14, 1958. Reed 41295; Nov. 4, 1958. Reed 41359. Perennial, low creeping, with long leafy stolons and ascending flowering branches 5-20 cm. tall, often forming dense mats; blades flat 1-6 cm. long, 2-7 mm. wide; racemes usually 3 or 4, 1-2 cm. long; spikelets solitary, about 1 mm. long, depressed-hemispheric, mostly glabrous.
299. Paspalum scrobiculatum L. Native of Asia; cultivated in India; on ballast, Camden, New Jersey and Abilene, Texas. Maryland: Canton, on chrome ore piles. Oct. 14, 1958. Reed 41167. Annual; erect or base very shortly decumbent, 3-18 dm. tall, leafy, glabrous, rarely hairly; leaves acuminate, ligule short, membranous; peduncle rather slender; spikes 2-8, 2.5-8 cm. long, alternate, erect or spreading, rachis 1.5-2.5 mm. broad, margins ciliate or serrulate; spikelets in 2, rarely 3 or 4, rows, imbricate, glabrous or sparsely pubescent, sometimes geminate on a common pedicel, about as broad as the flat rachis, glume I convex, 3-nerved, glume II flat with two submarginal strong nerves, 5-nerved, along the inner margins of which the glume is sometimes marked with shallow transverse pits, glume III with inflexed auricled margins.
300. Pennisetum glaucum (L.) R.Br. Native of Eastern Hemisphere; cultivated in Southern States for forage. Pearl Millet. Maryland: Canton, on chrome ore piles. Nov. 23, 1958. Reed 41722 (US); Brooklyn Park, Anne Arundel Co., wastes along roadsides, frequent. Sept. 1960. Reed 48145. Annual; culms robust, as much as 2 m. tall, densely villous below the panicle; blades flat, cordate, sometimes as much as 1 m. long and 5 cm. wide; panicle cylindric,

stiff, very dense, as much as 40-50 cm. long, 2-2.5 cm. thick, pale, bluish-tinged, or sometimes tawny, the stout axis densely villous; fascicles peduncled, spikelets short-pedicelled, 2 in a fascicle, 3.5-4.5 mm. long, obovate, turgid, the grain at maturity protruding from the hairy-margined lemma and palea.

301. Phalaris canariensis L. Introduced from the western Mediterranean region; Nova Scotia to Alaska, south to Virginia, Kansas, Wyoming, Arizona and California. Canary grass. Maryland: Canton, on chrome ore piles. Oct. 12, 1953. Reed 32887.

302. Phalaris paradoxa L. Introduced from the Mediterranean region; in grain fields from California to Arizona; ballast, Philadelphia, Pa.; New Orleans, La.; Baltimore, Md. Maryland: Canton, on chrome ore piles. June 22, 1954. Reed 33395. Annual, tufted, more or less spreading at base; culms 30-60 cm. tall; panicle dense, oblong, narrowed at base, 2-6 cm. long, often enclosed at base in the uppermost enlarged sheath; spikelets finally falling from the axis in groups of 6 or 7, those of the upper part of the panicle slender-pedicelled, the central spikelet fertile, the subulate-acuminate glumes with a prominent toothlike wing near the middle of the keel, the others sterile, with smaller pointed glumes with toothlike keels; fertile lemma 3 mm. long, with a few hairs toward the summit, the sterile lemmas obsolete; spikelets of lower part of panicle short-pedicelled, the glumes of the outer 4 spikelets deformed, cuneate-clavate.

303. Phleum subulatum (Savi) Aschers. & Graebn. Introduced from the Mediterranean region; on ballast, Philadelphia, Pa.; near Portland, Oregon. Maryland: Canton, on chrome ore piles. June 22, 1954. Reed 33399 and 33401 (US). Annual; culms 10-20 cm. tall; blades 2-5 cm. long; panicle linear-oblong, mostly 3-8 cm. long, 4-5 mm. thick; glumes 2 mm. long, scabrous, subacute, the tips approaching.

304. Phragmites communis Trin. Eurasia, Africa and Australia; Nova Scotia to British Columbia, south to Maryland, North Carolina, Illinois, Louisiana and California; Florida; Mexico; West Indies to Chile and Argentina. (Phr. communis var. berlandieri (Fourn.) Fern., in the 8th Ed., p. 132, for the North American plants). Maryland: Canton, common in wastes about the chrome ore piles. Nov. 1953. Reed 33034; Oct. 1957. Reed 39578.

305. Poa trivialis L. Introduced from Europe; Newfoundland and Ontario to Minnesota, South Dakota and Colorado; on Pacific Coast from Alaska to northern California; on ballast, Louisiana. Maryland: Canton, on chrome ore piles. June 10, 1957. Reed 38794 and 38795.

306. Polypogon monspeliensis (L.) Desv. Maryland: Talbot Co., edge of marsh, 1 mi. N of Tilghman. June 21, 1960. Reed 46631. These specimens extend the known range of this grass northward and westward from Dorchester Co., Maryland. (See Reed, Rhodora, 56: 180. 1954).
307. Rhynchelytrum roseum (Nees) Stapf & Hubb ex Bews. Naturalized from South Africa; Florida along the Gulf Coast to Texas, and Arizona. Natal grass. Maryland: Canton, on chrome ore piles. Sept. 6, 1958. Reed 41297; Sept. 24, 1958. Reed 41219; Oct. 14, 1958. Reed 41169; Oct. 1959. Reed 45795 and 45798; on manganese ore piles. Oct. 1959. Reed 45696. Short-lived perennial, sometimes apparently annual; culms slender, about 1 m. tall; blades flat, 2-5 mm. wide; panicle rosy, purple, fading to pink, silvery in age, 10-15 cm. long, the branches slender, ascending; spikelets about 5 mm. long, the capillary pedicels flexuous or recurved.
308. Setaria faberii Herrm. Naturalized from China and eastern Asia; eastern Massachusetts to Nebraska, south to North Carolina, Tennessee and Missouri. Maryland: Canton, on chrome ore piles. Sept. 25, 1957. Reed 39551; Oct. 14, 1958. Reed 41125; on manganese ore piles. Aug. 9, 1961. Reed 52144.
309. Setaria italica (L.) Beauv. Introduced from Eurasia; cultivated in warmer parts of United States, especially from Nebraska to Texas. Maryland: Canton, wastes near Patapsco River and Baltimore Harbor Tunnel expressway, off Clinton Street. Sept 24, 1958. Reed 41209.
310. Setaria viridis (L.) Beauv. Green Bristle-grass. Naturalized from Eurasia; throughout the cooler parts of United States, Newfoundland to British Columbia, south to Florida and California and Mexico. Maryland: Canton, on chrome ore piles. Oct. 25, 1954. Reed 35217 and 35218; June 22, 1954. Reed 33388 and 33439. Virginia: Newport News, on chrome ore piles. Aug. 1959. Reed 44056.
311. Setaria verticillata (L.) Beauv. Naturalized from Eurasia; Massachusetts to North Dakota, south to Alabama, Louisiana and Missouri, west to California; tropical America at medium altitudes. Bur Bristle-grass. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32674.
312. Setaria lutescens (Weigel) Hubb. Introduced from Europe; New Brunswick to North Dakota, south to northern Florida and Texas; British Columbia to California, New Mexico and Arizona; Jamaica, at high altitudes. Yellow Bristle-grass. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32799. According to Fernald, 8th ed., p. 226. 1950) S. lutescens (Weigel) Hubb is based on the invalid Panicum lutescens Weigel, 1772; according to Hitchcock & Chase, l.c., p. 719. 1951, S. lutescens has been erroneously referred to Setaria glauca (L.) Beauv., which is the specific epithet used by Fernald, in lit. cit. above.

313. Setaria pallidifusca (Schumach.) Stapf & Hubb. Native of South Africa (Cape, Natal, Basutoland, Orange Free State, Transvaal), Bechuanaland, Otjiwarongo and Grootfontein Dist. in South-West Africa. Chippindall, l.c., pp. 353-355, fig. 305. 1955. Maryland: Canton, on chrome ore piles. Oct. 14, 1958. Reed 41168 and 41172; Nov. 4, 1958. Reed 41369 (US). Annual, loosely tufted, usually 20-60 cm. high; culms often rooting from the lower nodes, usually with several flowering branches; culm nodes usually dark purple or brown; leaves glabrous, or hairy towards the ligule, the blades usually not exceeding 15 cm. in length, up to 9 mm. wide, expanded, soft and thin; panicle 1.5-8 cm. long, rarely more, spike-like, dense, bristly, usually bright orange variegated with light green and sometimes purple; spikelets 2-2.8 mm. long, solitary or in pairs of which one is reduced and sterile, each spikelet or pair subtended by 6-10 slender, slightly scabrid bristles, these up to 9 mm. long, usually bright orange, more rarely light green, yellow or purple; upper glume one-third to one-half as long as the spikelet; lower floret male or sterile, the palea slightly shorter than the lemma; upper floret finely transversely ridged.

314. Setaria grisebachii Fourn. Native of Mexico; Texas and Arizona. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32731; Oct. 12, 1953. Reed 32909. Annual, branching below, 1.5-8 dm. tall, slender, glabrous; leaf-sheaths loose, compressed, sparingly strigose, the margins ciliate; blades lanceolate, slightly narrowed at the cordate base, 5-10 cm. long, 5-10 mm. wide, rough and sparingly short-pubescent; bristles single or in pairs, widely spreading, purple or sometimes green, 5-15 mm. long; spikelets ovoid, 2 mm. long, acute, the flowering scale nearly 2 mm. long, ovoid, acute, very finely transversely rugose below.

315. Setaria magna Griseb. A Coastal Plain species ranging from New Jersey along the Atlantic Outer and Inner Coastal Plain to Florida, and then west to Texas, and north in the Mississippi Valley to Arkansas. Maryland: Baltimore Co., Cub Hill, in fields and wastes. Oct. 19, 1961. Reed 53671; Nov. 16, 1961. Reed 53748. Also known from the Delmarva Peninsula and Southern Maryland (St. Marys Co.). The area in Baltimore County is on the edge of the Piedmont Plateau, where there are many Coastal Plain spurs having coastal soils and plant habitats fingering in or on the Piedmont formations.

316. Sorghum vulgare Pers. Native of India; cultivated in United States as sorghum. (Sorghum Adans, acc. to Fernald, in Gray's Man., 8th. ed., p. 234). Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32761; Nov. 1958. Reed 41721.

317. Sorghum vulgare var. technicum (Koern.) Jav. Broom-corn. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32753

318. Sorghum halepense (L.) Pers. Introduced and naturalized from Eurasia; Syria; in tropical and warmer regions of both hemispheres; Massachusetts to Iowa and Kansas, south to Florida and Texas; west to southern California. Johnson grass. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32741; Oct. 1953. Reed 32683; Oct. 1954. Reed 35221; June 1956. Reed 38822.

319. Spartina alterniflora Loisel. var. glabra (Muhl.) Fernald. Southeastern New York to Florida and Texas. Maryland: Canton. Aug. 1893. C.C.Plitt. (Reed Herb.).

320. Spartina patens (Ait.) Muhl. Southwestern Newfoundland to lower St. Lawrence River, Quebec, south to Virginia; inland to western New York and southeastern Michigan. Maryland: Canton. Aug. 1893. C.C.Plitt. (Reed Herb.).

321. Sporobolus coromandelianus (Retz.) Kunth. Plains of India (Punjab eastward to Burma) and southward to Ceylon; Afghanistan, North and South Africa; introduced in Texas and Mexico. Maryland: Canton, on chrome ore piles. Sept. 1958. Reed 41121. Annual; leaves lanceolate, flat, spinulosely serrulate; panicle open, effuse, pyramidal, branches whorled, capillary, spikelets 0.2-0.25 mm.; glume I minute, oblong or lanceolate, glume II and III both ovate-lanceolate, acuminate.

322. Sporobolus pyramidatus (Lam.) Hitchc. Native of tropical America; West Indies, Colorado and Kansas to Texas and Louisiana; southern Florida; Missouri to southeastern New York. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32766.

323. Sporobolus virginicus (L.) Kunth. Coastal from Mexico and Texas to Florida, north to North Carolina, Virginia and Maryland. Maryland: Canton, on manganese ore piles. July 1959. Reed 43840; Aug. 1959. Reed 44374 and 45692.

THEMEDA Forsk. Inflorescences a flabellate cluster of several short racemes, each subtended by a spathe, the entire cluster subtended by a larger spathe; racemes consisting of 2 approximate pairs of sessile awnless staminate or neuter spikelets and a single fertile awned spikelet with a pair of sterile pedicellate ones, the rachis disjointing above the pairs of sessile staminate spikelets and forming a pointed callus below the fertile one; annuals and perennials.

324. Themeda frondosa (R.Br.) Merr. (Anthistina frondosa R.Br.). North Australia, and the islands off the north coast. Maryland: Canton, on chrome ore piles. Oct. 14, 1958. Reed 41152 (US). Virginia: Newport News, on chrome ore piles. Nov. 1959. Reed 45891. Stems erect and branching, from 60-90 cm. tall, to twice that height, frequently flattened under the lower nodes; leaves

glabrous or the upper sheaths ciliate; leafy panicle dense, often nodding, the leafy bracts narrow, ciliate on the back with long spreading hairs, the outer ones 5-7.5 cm. long; the 4 involucreal spikelets sessile, the outer glume of the fertile spikelet very rigid, scarcely nerved, obtuse, pubescent at the top with short rigid hairs; bracts sprinkled with long spreading hairs; awn very long and rigid; many of the spikes reduced to the 4-involucreal barren spikelets surrounding a rudimentary one.

TRAGUS Hall. Spikelets 1-flowered, in small spikes of 2 to 5, the spikes subsessile, falling entire, the spikelets sessile on a very short zigzag rachis, the first glumes small, thin, or wanting, appressed to the rachis, the second glumes of the 2 lower spikelets strongly convex with 3 thick nerves bearing a row of squarrose, stout hooked prickles along each side, the 2 second glumes forming the halves of a little bur, the upper 1 to 3 spikelets reduced and sterile; lemma and palea thin, the lemma flat, the palea strongly convex; low annuals, with flat blades and terminal inflorescences, the burs or spikes rather closely arranged along an elongate, slender axis.

325. Tragus racemosus (L.) All. Adventive from the Old World; South Africa; wastes and ballast from Maine to North Carolina; Texas to Arizona. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32800; Nov. 1958. Reed 46013; large mats on chrome ore piles. Aug. 1959. Reed 44365; Oct. 1959. Reed 45714 and 45826. Spikelets 4-4.5 mm. long, the acuminate apex projecting beyond the spines; the bur pedicelled.

326. Tragus berteronianus Scult. Probably introduced, Texas to Arizona, south to Argentina; also in warmer parts of Old World; on ballast at Boston, Massachusetts and on wool waste in Maine. Virginia: Newport News, on chrome ore piles. Aug. 1959. Reed 44053 (US). Culms branched at base, spreading, 10-40 cm. long; blades firm, mostly less than 5 cm. long, 2-4 mm. wide, the cartilaginous margin bearing stiff white hairs or short slender teeth; raceme dense, 4-10 cm. long, 4-5 mm. wide; burs 2-3 mm. long, nearly sessile, the apex scarcely exceeding the spines. Hitchc. & Chase, l.c., p. 483, fig. 712. 1951.

327. Tridens pulchellus (H.B.K.) Hitchc. Texas to Nevada, and southern California to southern Mexico. Fluff-grass. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32827. Hitchc. & Chase, l.c., pp. 208-210, fig. 275, map. 1951.

328. Tridens flavus (L.) Hitchc. (Triodia flava (L.) Smyth; Triodia flava forma cuprea (Jacq.) Fosberg; Triodia cuprea Jacq.) New Hampshire to Nebraska, south to Florida and Texas. Maryland: Canton. Aug. 1893. C.C.Plitt. (Reed Herb.). Red-top, Purple-top.

329. Tripsacum dactyloides (L.) L. Southern New England to southern Michigan, Illinois, Iowa and Nebraska, south to Florida, eastern Texas and Mexico; West Indies. Maryland: Canton, along shore near chrome ore piles. Sept. 27, 1953. Reed 32692. Eastern Gama-grass.

330. Triticum aestivum L. Commonly cultivated and escaped. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32672; July 1958. Reed 40895.

UROCHLOA Beauv. Annual and perennials; leaf-blades expanded; ligule a hairy membrane or a fringe of hairs; inflorescence of 2 to many racemes, usually solitary or in pairs, more rarely in whorls on a central axis, the racemes usually spike-like, one-sided and dense; rachis 3-angled or flattened, with the midrib raised on one side and the short pedicelled or almost sessile spikelets solitary or in pairs, more often in clusters of 3 or 4, on alternate sides of it, often forming 2 regular rows, when not solitary, sometimes with only one of the pairs or group well-developed and perfect; pedicels often reduced to stumps, disc-shaped at the apex; spikelets slightly or distinctly rounded on the back, flattened in front; glume unequal or almost equal, the lower much shorter than or almost as long as the spikelet, 3-7-nerved, upper as long as the spikelet, 3-11-nerved; lower floret male or sterile, the lemma like the upper glume, 3-7-nerved, palea almost as long; upper floret bisexual, indurated, usually conspicuously ridged, at least towards the margins, the lemma rounded or broadly obtuse at the apex of the spikelets, rigid awn that does not extend beyond the apex of the spikelet. Chippindall, l.c., pp. 380-381. 1955.

331. Urochloa panicoides Beauv. (Panicum helopus Trin.). A widely distributed species in South Africa (Cape, Bechuanaland, Transvaal, Zululand, Natal, Basutoland and the Orange Free State). Maryland: Canton, on chrome ore piles. Sept. 24, 1958. Reed 41215, 41232 and 41232A (spikelets pubescent); Oct. 11, 1958. Reed 41131 and 41119; Sept. 1959. Reed 45679 (glumes densely pubescent); Aug. 1959. Reed 44350 (US) (glumes densely pubescent). Annual, tufted; culms 6-60 cm. high, sometimes decumbent and rooting from the lower nodes, usually with flowering branches from several of them; leaves usually loosely to densely hairy with tubercle-based hairs, rarely almost glabrous, the blades up to 12 mm. wide, expanded, rounded or almost cordate at the base, soft, light green, the margins thickened and crinkled; inflorescence up to 8 cm. long, of 2-7 racemes up to 6 cm. long; spikelets 4-5 mm. long, acute, glabrous or hairy, solitary and almost sessile, forming 2 regular rows; glumes unequal, the lower one-quarter to one-third as long as the spikelet, usually 5-nerved, the side nerves curving inwards and joining below the apex, or connected by transverse veins; upper glumes prominently 7-11-nerved, with several transverse veins towards the apex; lower floret male or sterile, the lemma 5-7-nerved; upper floret bisexual, finely transversely ridged.

HAMMAMELIDACEAE

332. Liquidambar styraciflua L. A native tree found in ditches in Canton. Oct. 1959. Reed 45804.

HYDROPHYLLACEAE

NAMA L. Herbaceous annuals; leaves alternate and entire; flowers borne singly in the axils or in lateral or terminal cymes; calyx divided nearly to base; corolla tubular to narrowly campanulate, pubescent outside; filaments glabrous, stamens included; styles 2, united, less pubescent; capsules usually loculicidal; seeds many.

333. Nama hispidum Gray. (Merilaunidium hispidum (Gray) Kuntze). Native from Oklahoma and Colorado, south to Texas and Mexico. Maryland: Canton, on chrome ore piles. Oct. 2, 1953. Reed 32677; Oct. 12, 1953. Reed 32885. Annual, hispid or hirsute; stems branched at the base; branches spreading or prostrate, 0.5-2 dm. long; leaf-blades spatulate or linear-spatulate, 1-4 cm. long, obtuse, the lower short-petioled, the upper sessile; pedicels 1-2 mm. long; calyx bristly, the lobes narrowly linear, 4-6 mm. long, often slightly broadened upward; corolla about 8 mm. long, the tube surpassing the calyx; capsules narrowly oblong, shorter than the calyx, wrinkled; seeds not pitted, but may be minutely reticulated.

HYPERICACEAE

334. Hypericum gentianoides (L.) BSP. Southern Maine, southern Ontario to Wisconsin, south to Florida and Texas. Virginia: Newport News, at foot of Chrome ore piles. Nov. 1959. Reed 45878.

335. Hypericum gymnanthum Engelm. & Gray. Florida to Texas, north locally to Long Island, Pennsylvania, Ohio, Illinois, Missouri and eastern Kansas. Virginia: Newport News, on chrome ore piles. Nov. 1959. Reed 45893.

LABIATAE

336. Ballota nigra L. Adventive from Europe; southern New England and New York, south to New Jersey, Pennsylvania and Maryland. Black Horehound. Maryland: Canton. June 1899. C.C.Plitt. (Reed Herb.)

337. Lamium amplexicaule L. Naturalized from Europe; Newfoundland and southeastern Labrador, south to New Brunswick and west to Minnesota and southward becoming more common. Henbit. Maryland: Canton, common on wastes. April 1958. Reed 40709; May 24, 1960. Reed 46319 and 46322.

338. Lamium purpureum L. Naturalized from Europe; Newfoundland, Nova Scotia, west to Minnesota, south to South Carolina, West Virginia, Ohio, Indiana, Illinois and Missouri. Purple dead-nettle. Maryland: Canton, common on wastes. April 1958. Reed 40696.
339. Mentha rotundifolia (L.) Huds. Introduced from Europe; Maine to Michigan, south to Florida, Louisiana and Texas; Mexico. Maryland: Canton, July 1904. C.C.Plitt. (Reed Herb.); Sept. 1905. C.C.Plitt. (Reed Herb.); June 1955. Reed 36547; Oct. 1957. Reed 39587 (about one acre patch); iron ore piles. July 1962. Reed 57702.
340. Mentha arvensis L. Labrador to Alaska, south to Virginia, Kentucky, Missouri, and in the west south to California; Eurasia. Maryland: Canton, on chrome ore piles. July 1959. Reed 43637-38.
341. Mentha silvestris L. Native of temperate and southern Europe, Russian and central Asia; Britain (cult.). Horse-mint. Maryland: Canton, between chrome ore piles, and on some piles. Sept. 1955. Reed 38222; Aug. 1956. Reed 37975; Sept. 1957. Reed 39538; July 1959. Reed 43830 (US). Rootstock more or less creeping, the stems 3-6 dm. tall, erect, slightly branched, and, as well as the whole plant, more or less hoary with a short close down; leaves closely sessile, broadly lanceolate or narrow-ovate; flowers small and numerous, in dense cylindrical spikes, 2.5-5 cm. long, usually several together, forming an oblong terminal panicle.
342. Nepeta cataria L. Native of Old World; naturalized as a weed. Catnip. Maryland: Canton, on chrome ore piles. Oct. 1959. Reed 45706.
343. Salvia reflexa Hornem. (S. lanceolata of manuals; S. lanceifolia of Gray's Man., 7th ed., non Poir.) Mexico and Texas, north to Montana and Wisconsin; adventive east to Michigan, Ohio, West Virginia and New Jersey. Maryland: Canton, on chrome ore piles. June 1957. Reed 33374; Nov. 1953. Reed 32986; Oct. 1953. Reed 32870 and 32913; Sept. 1953. Reed 32832, 32772 and 32776.
344. Satureja calamintha (L.) Scheele var. nepeta (L.) Briq. Naturalized from Europe; North Carolina to Arkansas, north to Maryland and Kentucky. Basil-thyme. Maryland: Canton, on chrome ore piles. Oct. 1953. Reed 32679.
345. Stachys longispicata Boiss. Native of Mesopotamia. Maryland: Canton, on chrome ore piles. Sept. 1955. Reed 38231; Oct. 1956. Reed 38248.
346. Teucrium laciniatum Torr. Oklahoma to Colorado, south to Texas and New Mexico. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32793. Plants from caespitose caudices and



Heliotropium europeum on chrome ore at Canton, Maryland



Phytolacca icosandra on chrome ore at Canton, Maryland

rather woody roots; stems 7-20 cm. tall, branching from base, usually unbranched above, glabrous or sparsely hairy; leaves pinnately parted nearly to the midrib into usually entire linear lobes, these sometimes lobed again, the whole leaf varying from 1.5-5 cm. long, glabrous or nearly so; calyx 8-13 mm. long in flower, the teeth equal or nearly so; corolla 12-20 mm. long, white or possibly pale blue to lilac. Harrington, Man. Plants Colorado, p. 476. 1954.

LAURACEAE

347. Sassafras albidum (Nutt.) Nees. Southwestern Maine to Michigan and Illinois, south to Virginia and Arkansas. White sassafras. Maryland: Canton, common along wastes, thickets and ditches. Oct. 1957. Reed 39560.

LEGUMINOSAE

I wish to thank Dr. Bernice Schubert, Harvard Univ., and Dr. Velma Rudd, United States National Herbarium, for assisting in the identifications in this family.

348. Acacia constricta Benth. vel aff. Native of western Texas and Mexico. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32808; Oct. 1953. Reed 32902; Sept. 1957. Reed 39321 and Nov. 1958. Reed 41714. Virginia: Newport News, on chrome ore piles. Aug. 1959. Reed 44047; Nov. 1959. Reed 45876.

349. Aeschynomene americana L. var. americana. (Det. Dr. Rudd). West Indies (Jamaica, Cuba, to St. Kitts, to Tobago); continental tropical America. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32847. Herbaceous or slightly woody; stem erect, 3-20 dm. tall, glabrous, or more or less villous, and sometimes glandular; stipules half-sagittate, triangular-lanceolate, striate, long-acuminate, 12 mm. long or less; leaves 3-7 cm. long, very short-petioled; leaflets 10-30 pairs, linear, glabrous or ciliate, 4-6-nerved, mucronate and sometimes denticulate at the apex, obliquely rounded at the base, 7-10 mm. long, about 2 mm. wide; racemes few-flowered; calyx 2-lipped, about 4 mm. long; corolla yellow, sometimes brownish-striped or nearly white, 6-8 mm. long; pods short-stipitate, straight or a little curved, 4 cm. long or less, glabrous or pubescent, 2-8-jointed, the upper margin continuous and nearly straight, the lower deeply crenate, the joints nearly semicircular, 2-3 mm. long. -- Britton & Wilson, l.c., 5(3): 397. 1924.

ALYSICARPUS Neck. Herbs, some with 1-foliate leaves and small purplish or blue flowers in short terminal racemes, the scarious bracts deciduous; calyx narrow, deeply cleft, the lobes lanceolate-acuminate, chartaceous, striate, the two upper ones partly united; standard suborbicular, clawed; wings obliquely oblong,

adnate to the blunt incurved keel; stamens diadelphous (9 and 1); ovary nearly sessile, several-ovuled; style filiform, its apex incurved; stigma terminal, capitate; loment nearly terete, several jointed, the joints indehiscent.

350. Alysicarpus vaginalis DC. Native of Hainan, Annam, Tonkin, Cochinchina, India, Punjab, Formosa, and northwestern Himalaya, Hongkong; Africa (French Sudan, Nigeria, Senegal); Philippine Islands. Virginia: Newport News, on chrome ore piles. Nov 1959. Reed 45907 and 45899.

351. Alysicarpus sp. Similar to species from Burma in US. Maryland: Canton, on chrome ore piles. Nov. 1958. Reed 41715.

352. Arachis hypogaea L. Introduced originally from South America; widely cultivated in many areas in the world. Peanut. Virginia: Newport News, on chrome ore piles, from India. Nov. 1959. Reed 45911.

353. Astragalus hamosus L. vel aff. Native of southern Europe. Maryland: Canton, on chrome ore piles. June 1954. Reed 33398. Plants 2-6 dm. tall, pale green; stems erect, ascending or diffuse; annual; leaves with 8-12 pairs of leaflets, oval or oblong, truncated or emarginate, covered on the underside with hairs; stipules more or less completely united, opposite-leaved, the lobes ovate pointed, not attached to leaf stalk; stalks about 6-flowered, shorter than the leaves, the yellowish flowers 3-12, erect, in a globose cluster, at first compact, later more loose and elongating a little at maturity; bracts scarioso, linear, pointed, longer than the pedicels; calyx covered with little white hairs intermixed with black hairs, tubular, with linear-subulate teeth, equalling the tube; standard to the limb oval-oblong, emarginate, apiculate, projecting outward; the wings linear, obtuse, entire; legume much curved, terete, furrowed on the back, subulate at the top; seeds reddish, reniform-quadrangular, compressed, smooth.

CAJANUS DC. Perennial, a stiff, slightly woody herb, finely puberulent or pubescent, with pinnately 3-foliate leaves and showy yellow flowers in stalked axillary racemes; calyx narrowly campanulate, its lobes acute, the 2 upper ones partly united; standard nearly orbicular, reflexed; wings obliquely obovate; keel with a blunt incurved tip; ovary many-ovuled; style thickened above, the stigma oblique; pod linear, flattened, acute and long-tipped, its valves impressed between the seeds.

354. Cajanus cajan (L.) Millsp. West Indies; Bermuda; continental tropical America and Old World tropics. Maryland: Canton, on chrome ore piles. Oct. 1958. Reed 41716. Bushy, branched, 2 m. tall or less; leaves petioled; leaflets oblong or oblong-lanceolate, 2.5-8 cm. long, acute at both ends or obtuse at the

base, velvety on both sides, dark green above, pale beneath; racemes few-flowered, as long as the leaves or longer; pedicels, rachis and calyx brown-pubescent; flowers 12-16 mm. broad; pods 5-8 cm. long, 10-12 mm. wide, 4-7-seeded; seed whitish, somewhat flattened, about 4 mm. thick. -- Britton & Wilson, l.c., 5(3): 414. 1924.

CANTHAROSPERMUM Wight & Arn. (Atylosia Wight & Arn.). Slender twiner; stems softly pubescent; leaves trifoliate; leaflets obovate, rounded at the apex, 2-3 cm. long, 1-2 cm. broad, softly tomentose on both surfaces; flowers in axillary pairs, shortly pedicellate; fruits 3-6-seeded, oblong, 2-2.5 cm. long, septate between the seeds, softly tomentellous, apiculate.

355. Cantharospermum scarabaeoides (L.) Benth. Widely spread in tropical Asia; Mascarene Isl.; Sierra Leone. Maryland: Canton, on chrome ore piles, so common as to cover some piles. Nov. 1958. Reed 41368; Oct. 1959. Reed 45801 and 45809. Virginia: Newport News, on chrome ore piles. Nov. 1959. Reed 45884.

356. Cassia bauhnioides A.Gray. Western Texas, Arizona and northern Mexico. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32844. Herbaceous, puberulent, 10-30 cm. tall; leaflets oblong, 1-4 cm. long, obtuse, pubescent on both surfaces; petals 18 mm. long, much surpassing the sepals; pod curved, compressed, 2-3 cm. long, pubescent; flowers mostly axillary; leaflets usually 2, very unequal at the base.

357. Cassia nictitans L. A weed from Massachusetts and southern Vermont to Illinois, Missouri, Kansas, south to Georgia and Texas. Maryland: Canton, on chrome ore piles. Oct. 1954. Reed 35199.

358. Cassia tora L. Old World tropics; continental tropical America; West Indies; Florida to Texas and Mexico, north to Pennsylvania, Indiana, Michigan, Illinois, Missouri and eastern Kansas. Sickle-pod. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32809; Oct. 1953. Reed 32886; Sept. 1958. Reed 41224; Oct. 1958. Reed 41137, 41153 and 41159; Oct. 1959. Reed 45818.

359. Cassia obovata Collad. Native of Old World tropics; Venezuela; West Indies. Maryland: Canton, on chrome ore piles. Sept. 1957. Reed 39309. Glabrous, glaucous, erect, 0.5-1.2 m. high; stipules lanceolate, 4-6 mm. long, acuminate; leaves 8-15 cm. long; petioles slender, 2-5 cm. long; leaflets 3-7 pairs, obovate or oblong-obovate, 1-4 cm. long, nearly sessile, the apex rounded and mucronulate, the base narrowed; racemes mostly as long as the leaves or longer, several-many-flowered, slender-peduncled; bracts 4-7 mm. long; petals bright yellow, nearly

alike, about twice as long as the sepals; pod oblong, very flat, rounded at both ends, 3-6 cm. long, about 1.5 cm. wide. -- Britton & Wilson, l.c., 5(3): 373. 1924.

CICER L. Erect or ascending, often glandular-pubescent herbs, with alternate, pinnate leaves, the stipulate leaflets dentate, the stipules foliaceous, the white, blue or purple flowers solitary or few together in the axils on slender peduncles; calyx oblique, or gibbose at base, deeply 5-cleft; standard suborbicular, clawed; wings obliquely obovate; keel broad, incurved; stamens diadelphous (9 and 1); anthers all alike; ovary sessile, 2-several-ovuled; style filiform, glabrous, incurved; stigma terminal; pod ovoid to oblong, swollen, 2-valved; seeds subglobose.

360. *Cicer arietinum* L. Native of the Mediterranean region; introduced from southwestern Asia; Bolivia; West Indies; waif in eastern North America. Maryland: Canton, on chrome ore piles. June 1958. Reed 40605; July 1958. Reed 41013 (US); Sept. 1958. Reed 41229. Annual, glandular-pubescent, erect or ascending, branched, 3-6 dm. high, the branches angled; leaves 5-10 cm. long; stipules 3-5 mm. long, dentate, acute; petioles slender, 1-3 cm. long; leaflets 9-17, oblong or obovate, sessile, 8-16 mm. long, serrate above, mostly obtuse; flowers white to purple, nodding, solitary on peduncles much shorter than the leaves; calyx-lobes linear-lanceolate, acute, 6-8 mm. long; corolla somewhat longer than the calyx; pod oblong, erect, 2-3 cm. long, densely pubescent. -- Britton & Wilson, l.c., 5(3): 210. 1924.

361. *Coronilla varia* L. Introduced and naturalized from Europe; Maine and New England to South Dakota, south to Virginia, North Carolina, West Virginia, Kentucky and Missouri; native of Europe, southwestern Asia and north Africa. Maryland: Canton. June 1900 and 1901. C.C. Plitt; abundant in wastes in Canton off Clinton Street. Oct. 1957. Reed 39419.

362. *Coronilla cretica* L. Native of central Europe; Crete; Italy; Rumania. Maryland: Canton, on chrome ore piles. June 1954. Reed 33375. Annual, or biennial, glabrous or sparsely covered with setae; leaflets obovate or obtriangular, the anterior part retuse or emarginate, 5-8 pairs; peduncles 3-5-flowered, the florets 5-7 mm. long, purple or white, variegated with purple; legume erect, narrowly linear, up to 1 mm. wide and 4-8 cm. long, quadrangular, ending in an incurved beak; seed sparsely hairy. Asia Minor, Caucasus

363. *Crotalaria biflora* L. Native of plains of Peninsular India and Ceylon. Virginia: Newport News, on chrome ore piles, from India. Nov. 1959. Reed 45914. Silky trailing annual, with stems 30-45 cm. long; leaves close, sessile, densely silky, ovate or roundish, 12-25 mm. long, obtuse, mucronate; stipules minute, usually none; pedicels 2-4 times the leaves, 1- or closely 2-flowered; calyx 6 mm., densely silky, teeth long, the upper lanceolate, the lower linear; corolla yellow, scarcely exerted;

pod compressible, 6-8 mm. long, short-stalked, glabrous or downy; racemes all lateral, leaf-opposed. Hooker, Flora Brit. India, 2: 66. 1879.

364. Crotalaria punila Ortega. Peninsular Florida and the Keys; West Indies; tropical America. Maryland: Canton, on chrome ore piles. Sept. 1957. Reed 39305; Oct. 1957. Reed 39444; Oct. 1958. Reed 41180 and 41345. Perennial, minutely pubescent or glabrate; stems several together, often branched throughout, 1-9 dm. long, decumbent; leaves numerous; leaflets 3, the blades cuneate to oblong-cuneate, 0.5-1.5 cm. long, mostly emarginate, the terminal one longer than the petiole; calyx becoming 4 or 5 mm. long; corolla yellowish; standard less than 10 mm. long; pods 1-1.5 cm. long.

GALEGA L. Calyx campanulate, not bilabiate, with 5 subulate teeth; keel almost acute; ovary sessile, upright, exerted, linear, many-seeded, bivalve, obliquely striated on the surface.

365. Galega officinalis L. Native of the Mediterranean region, Europe and Africa. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32659, 32798 and 32801; June 1954. Reed 33445; July 1954. Reed 34035; Nov. 1954. Reed 33032; Oct. 1954. Reed 32680 and 35227. Plants 6-10 cm. tall, glabrous; stems erect, fistulate, striated; leaves unevenly paired, with 5-8 pairs of oblong-lanceolate, glabrous leaflets, terminated by a subulate point; the terminal leaflet ordinarily tapering; stipules large, semi-sagittate to broadly lanceolate, pointed; flowers bluish, or rarely white, in oblongated clusters, axillary, long-peduncled, surpassing the floral leaf; pedicels pock-marked, equal to the tube of the calyx; bracts elongated, subulate; calyx glabrous, with long subulate divisions; standard at limb orbicular, upright, covered with parallel veins convergent toward the middle of the surface and forming acute angles at the summit directed toward the styles; seeds oblong, brown.

366. Glycine max (L.) Merr. Introduced from eastern Asia; cultivated southward, north to Delaware, Michigan, Illinois; escaped from cultivation. Soybean. Maryland: Canton, on chrome ore piles. Oct. 1959. Reed 46717.

367. Indigofera trifoliata L. Native of the East Indies, Asia, tropical Australia, and throughout India. Maryland: Canton, on chrome ore piles. Sept. 1958. Reed 41234; Oct. 1958. Reed 41144 and 41148. Perennial, pubescent or hairy; branches numerous, long, spreading from the base, procumbent or ascending; leaflets 3, sessile, oblong, 1.5-2.5 cm. long, gland-dotted; flowers small, red, crowded in short, sessile racemes; calyx-teeth long, bristle-like; pod pubescent, about 1.5 cm. long.

368. Lathyrus aphaca L. Native of central and southern Europe. Maryland: Canton, on chrome ore piles. Oct. 1953. Reed 32681; June 1954. Reed 33356 and 33410. Plant glabrous, or slightly glaucous; stems flexuous, decumbent or climbing, branched; annual; no true leaves, the stipules large and leaf-like, sagittate-cordate, simulating two opposite sessile leaves; petiole filiform, terminating in a simple or branching tendril, deprived of leaflets; stalks 1-flowered, or rarely 2, on peduncles longer than the petioles, the flowers yellow, with black veins on the standard; calyx a tube with 5 veins, its teeth linear-lanceolate, very acute, all nearly equal, much longer than the tube; limb of the standard rounded-emarginate, erect; seed ovoid, smooth, brown marbled with green; hilum oval, very short.
369. Lathyrus inconspicuus L. Native of Europe. Maryland: Canton, on chrome ore piles. June 1954. Reed 33387. Plant glabrous, 1-3 dm. tall; stems angular, not winged, filiform, erect; annual; leaves with 1 pair of linear or linear-lanceolate leaflets, attenuate at both ends; petiole not winged, terminated by a short tip and never a tendril; stipules semi-sagittate, very erect, subulate when asleep; stalks very short, 1-flowered with a minute bracteole; corolla very small, flat, venoso-striate; legume linear, downy; seeds 8-15, ovoid or spherical, truncate at both ends, brown, marbled, smooth; hilum orbicular.
370. Lathyrus sativus L. Native of Europe. Maryland: Canton, on chrome ore piles. Sept. 1958. Reed 41237; Oct. 1958. Reed 41142. Plants glabrous, 3-5 dm. tall; stems narrowly winged, decumbent or climbing; annual; leaves with petioles narrowly winged, terminating in a simple or branched tendril, with one pair of lanceolate or linear acuminate leaflets; stipules semi-sagittate, shorter than the petiole; stalks 1-flowered, longer than the petioles; calyx with teeth quite acute, lanceolate-acuminate, twice as long as the tube; legume ovate, winged and arched on the back, about twice as long as broad; seeds 4-5, large, angular, smooth, whitish-green; hilum oval-oblong.
371. Lens culinaris Medic. Introduced from the Old World; occasional in wastes but scarcely persistent. Lentil. Maryland: Canton, on chrome ore piles. June 1959. Reed 42976; July 1959. Reed 43621 (US).
372. Lotus corniculatus L. Adventive from Europe; Newfoundland to Minnesota, south to Virginia and Ohio. Maryland: Canton, May 1900 and July 1904. C.C. Plitt; wastes near oyster shell piles, along wharf. June 1959. Reed 42978.
373. Medicago lupulina L. Naturalized from Europe; throughout eastern North America. Black medik or nonesuch. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32797; May 1958. Reed 40410.

374. Medicago minima (L.) Desr. Adventive from Europe; local, Connecticut to Virginia. Bur-clover. Maryland: Canton, on chrome ore piles. June 1954. Reed 33405.

375. Medicago sativa L. Introduced and naturalized from the Old World; throughout eastern North America. Alfalfa. Maryland: Canton, on chrome ore piles. June 1954. Reed 33431; May 1958. Reed 40408; Port Covington. July 1959. Reed 43815. Virginia: Newport News, on chrome ore piles. Aug. 1959. Reed 44043.

376. Medicago orbicularis (L.) Bartal. (Some authors give M. orbicularis All.). Native of France, Corsica and southern Europe. Maryland: Canton, on chrome ore piles. June 1954. Reed 33394 and 33406. Plant 2-6 dm. tall, nearly glabrous; stems inclined, angular; leaves obovate-cuneiform or the upper ones rhomboidal, dentate at their upper half; stipules lacinate; peduncle 2-3-flowered, aristate, shorter than the leaf; pedicels longer than the tube of the calyx; teeth of the calyx lanceolate-subulate, once longer than the tube; standard longer than the keel; the latter going beyond the wings; ovary glabrous, or a little hairy and ciliate, lenticular, 15-18 mm. large, becoming yellowish at maturity, spreading to the right, forming 3-5 uneven revolutions; the surfaces furnished with radiating veins, ramifying and anastomosing, the edge membranaceous leafy, flat or undulating; flowers small and yellow; legume at first crooked, afterwards forming a very compressed lentiform helix of 5-7 turns, of which the middle one is the largest; seeds many, oval-triangular, punctulate-rugose or tuberculate.

377. Medicago scutellata All. Native of central Europe. Maryland: Canton. June 1954. Reed 33367 and 33392. Plants 2-4 dm. tall, hairy-glandulose; stems erect or diffuse, angled, branching; leaves obovate or oblong, dentate in their upper half; stipules lanceolate, dentate; peduncle 1-3-flowered, long-aristate, often shorter than the leaf; pedicels shorter than the tube of the calyx; teeth of the calyx lanceolate, sharp, longer than the tube; the standard longer than the keel; the latter going beyond the wings a little; ovary at first hairy-glandulose, later being glabrous, almost hemispherical at the end, 12-15 mm. large, spiraling to the right, forming 5-6 revolutions, of which the upper ones are set within the lower ones; the surface oblique and strongly reticulate veined; the edges slender at the base, thickened at the summit; flowers large, yellow orange; legume convex below, presenting its spiral edge on the upper surface of the helix; seeds large, reniform, hollowed out on one side, smooth, brown.

378. Melilotus alba Desr. Naturalized from Europe; throughout eastern North America. White melilot. Maryland: Canton, common on wastes. Oct. 1957. Reed 39571.

379. Melilotus officinalis (L.) Desr. Naturalized from Europe; Quebec to British Columbia and southward. Yellow melilot. Maryland: Canton, common on wastes. Oct. 1957. Reed 39570.

MIMOSA L. Herbs, shrubs or rarely trees, mostly with 2-pinnate, often sensitive leaves, the small, regular, mostly 4-5-parted, perfect or sometimes polygamous flowers in axillary, peduncled heads or spikes; calyx small, its teeth short; petals valvate, connate below, hypogynous; stamens as many as the petals or twice as many, distinct, exerted; filaments mostly filiform; anthers small, eglandular; ovary 2-many-ovuled; style slender or filiform; stigma terminal, small; pod linear or oblong, usually flat, often transversely jointed, 2-valved with the continuous margins persistent; seeds compressed. -- Britton & Wilson, l.c., 5(3): 357. 1924.

380. Mimosa pudica L. Continental tropical America; West Indies; naturalized in tropical Asia and in Australasia. Maryland: Canton, frequent on chrome ore piles. Oct. 1958. Reed 41158; Nov. 1958. Reed 41370; Oct. 1959. Reed 45797. Virginia: Newport News, on chrome ore piles, from India. Nov. 1959. Reed 45915. Herbaceous, or a little woody, loosely pubescent with long hairs or glabrate, branched, 5 dm. high or less, the stems and branches armed with rather stout, somewhat curved prickles 2-4 mm. long; stipules lanceolate, striate, acuminate, 3-6 mm. long; petioles slender, with a pulvinus at base, 2-6 cm. long, deflexed when touched; pinnae 1 pair or 2 approximate pairs, also with a pulvinus at base, 2-6 cm. long; leaflets 15-25 pairs, thin, linear, 6-10 mm. long, 1.5-2 mm. wide, folding when touched, acutish at the apex, obliquely rounded at the base; heads ovoid, axillary; peduncles 1-2 cm. long; calyx minute; petals and stamens 4; stamens pink, fading white; pods linear-oblong, 2-5-jointed, 1-1.5 cm. long, 3 mm. wide, constricted at joints, the margins armed with slender straight prickles, otherwise glabrous. -- Britton & Wilson, l.c., p. 357. 1924.

381. Mimosa sp. Virginia: Newport News, on chrome ore piles. Aug. 1959. Reed 44047. An immature another species.

382. Ononis spinosa L. Adventive from Europe; occasional in waste places near eastern United States cities. Maryland: Canton, on ballast. Sept. 1900 and 1904. C.C.Plitt. (Reed Herb.). Also known as Ononis repens. Named for onos, an ass, because the plant is eaten by that animal, acc. to Hook. & Arn., Brit. Fl., p. 96. 1850. Descr. in Gleason, l.c., p. 397. 1952.

383. (Dalea) Parosela floridana Rydb. Native of the Florida Keys. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32774. Pubescent shrub; branches puberulent, brown, rather densely glandular-dotted; leaves 3-6 cm. long; stipules small, subulate, gland-like; rachis puberulent, slightly winged; leaflets 9-17,

oval or obovate, often retuse, 5-10 mm. long, puberulent; spikes short-peduncled in the axils of the leaves; bracts ovate-lanceolate, acute, shorter than the calyx, finely pubescent, with a few glands; calyx-tube villous, campanulate, 2.5 mm. long; lobes filiform, with a broader base, the lowest 4 mm., the rest 3 mm. long; corolla white, or ochroleucous, or pink, turning dark brownish rose-purple; blade of the banner rounded cordate, with a single gland at the apex and a few near the base, 2.5 mm. long; blades of the wings 3 mm. long, those of the keel 4 mm. long and with a gland near the apex. -- Rydb., in No. Amer. Fl., 24(2): 114. 1920.

384. Dalea lemmoni Parry Native of Mexico, northward and Native of southern Arizona. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32755. (Rydb. in No. Amer. Fl., 24(2): 77. 1920, says, "Parosela lemmoni (Parry) Heller, based on Dalea lemmoni Parry in Gray, 1882."). Slender annual or perennial, branched at the base; stems 1-3 dm. tall, branched, glabrous; leaves 1-3 cm. long; stipules minute, subulate; petiole 1-3 mm. long; rachis glabrous, conspicuously glandular-dotted, margined; leaflets 5-11, linear to oblong-cuneate, 4-10 mm. long, acutish to retuse, glabrous on both sides, conspicuously glandular-dotted beneath; peduncles terminal or opposite the leaves, 2-6 cm. long; spikes globose or ovoid, about 1 cm. long; bracts lanceolate, acuminate, conspicuously glandular-dotted and glabrous on the back, ciliate on the margins; calyx-tube turbinate, 10-ribbed, silky-hirsute, 2 mm. long; lobes subulate-attenuate, longer than the tube; corolla rose-colored; blade of the banner deltoid-cordate, 2 mm. long, the claw 3 mm. long; blades of wings obliquely elliptic or obovate, with a rounded basal lobe, 3-3.5 mm. long, those of the keel-petals broadly obovate, with a smaller basal lobe, 3.5-4 mm. long, the claws of both 2 mm. long; pod silky-villous.

385. Phaseolus mungo L. Native and cultivated in India. Maryland: Canton, on chrome ore piles. Sept. 1958. Reed 41298; Oct. 1958. Reed 41145 and 41151. Stems scandent or subscandent, up to 60 cm. tall; whole plant hoary with a reddish-brown pubescence, which gives the foliage a light tint; branches usually not twining; leaves yellowish-green, the leaflets 5-13 cm. long, the stipules inserted above their bases; pods hairy, ascending or suberect; seeds dark-brown to dull greenish-gray in color, sometimes black.

386. Pisum fulvum L. & B. Native of Syria and Palestine. Maryland: Canton, on chrome ore piles. Sept. 1958. Reed 41233. Petioles terete; stipules rounded below and acutely toothed; peduncles 2-flowered; legumes short; flowers fulvous, marked with deep or almost scarlet veins; legume semi-elliptic, 2.5 cm. long; leaflets 2 or 4.



Various weeds on chrome ore, Canton, Maryland



Melons and sorghum of chrome ore, Canton, Md.

387. Sesbania exaltata (Raf.) Rydb. Tropical America; Florida to Louisiana, north to Missouri; southwestern states; adventive along the Atlantic seaboard to southeastern New York. Maryland: Canton, on chrome ore piles. Oct. 1958. Reed 41146. Virginia: Newport News, on chrome ore piles, frequent. Aug. 1959. Reed 44045; Nov. 1959. Reed 45872. See Reed, Phytologia, 9(8): 496. 1964.

388. Tephrosia purpurea Pers. Widespread in India, tropical Africa and throughout the tropics. Maryland: Canton, on chrome ore piles. Oct. 1958. Reed 41136 and 41154; Nov. 1958. Reed 41713; Oct. 1959. Reed 45713. Virginia: Newport News, on chrome ore piles, from India. Nov. 1959. Reed 45910. Perennial, pubescent herb; stems erect, 2-5 dm. tall, woody; leaves odd-pinnate, 5-12 cm. long; leaflets 9-21, oblong-lanceolate, 1-2 cm. long, 0.5-1 cm. wide, entire, obtuse, bristle-tipped, the upper surface nearly glabrous, the lower silky, the veins straight, parallel; flowers red, 0.5-0.8 cm. long, in leaf-opposed racemes; calyx silky, bell-shaped, the 3 lower teeth about as long as the tube, the 2 upper longer; standard orbicular, silky outside; keel incurved, obtuse; upper stamen free, others united; style strongly curved, glabrous; stigma capitate; pod sessile, pubescent, flat, 4-5 cm. long, 0.5 cm. wide; seeds 6-10.

TRIGONELLA L. Annual or rarely perennial herbs, with erect or spreading stems; leaves alternate; blades pinnately 3-foliolate; leaflets broadened upward, toothed, commonly sharply so; flowers pedicelled, in short racemes or panicles, or clustered; calyx short-pedicelled, lobes nearly equal, narrow; corolla yellow, blue or white, the standard with an obovate or cuneate sessile blade, the wings oblong or ovate, longer than the rounded keel; stamens 10, diadelphous, the anthers all alike; ovary sessile or short-stalked, the style very stout or subulate, the stigma oblique; ovules several or many; pod curved, narrow, indehiscent or nearly so.

389. Trigonella monspeliaca L. Naturalized from Europe; central Alabama. Maryland: Canton, on chrome ore piles. June 1954. Reed 33400. Plants finely pubescent; stem simple or branched, 0.5-4 dm. long; leaflets 3, the blades cuneate or obovate, 3-11 mm. long, sharply toothed above the middle; flowers clustered, the calyx 2-2.5 mm. long, the lobes subulate, slightly shorter than the tube; corolla yellow, about one-third longer than the calyx, the standard cuneate, 3-3.5 mm. long, emarginate; pods linear, curved, 11-15 mm. long, reticulated, finely pubescent.

390. Trigonella foenum-graecum L. Native of eastern Europe and Abyssinia; cultivated from Mediterranean to India, Sahara. Maryland: Canton, on chrome ore piles. June 1954. Reed 33369. Plants

2-4 dm. tall, simple, green, glabrous or very lightly hairy; stems erect, branching; leaves short-petioled, the leaflets oblong or obovate, obtuse or truncate and toothed at the summit; stipules lanceolate-acuminate, entire; flowers whitish or yellowish, axillary, sessile, solitary or in pairs; calyx a little hairy, with linear-lanceolate teeth, shorter than the tube; standard longer than the wings; the keel very short, rounded; ovary glabrous, linear-compressed, curved outward, provided on the surface with longitudinal anastomosing veins; the beak elongated one-third to one-fourth that of the receptacle; legume falcate, twice as long as the beak; seeds about 20, oval, compressed, often truncate at both ends, finely tuberculate.

391. Trigonella caerulea (L.) Ser. Native of Europe, central and southeastern. Maryland: Canton, on chrome ore piles. Nov. 1953. Reed 33039. Stem erect, simple or a little branched, 15-60 cm. tall; leaves oblong-lanceolate, dentate, mucronate-acuminate; stipules half-ovate, dentate, long-acuminate; floral peduncles axillary, erect, longer or shorter than their bracts; inflorescence dense, in a globose cluster, pedicels of flowers shorter than the calyx and the bract; corolla bright blue, the wings shorter than the standard and reaching beyond the keel; fruit ascending, provided with longitudinal projecting veins, the beak recurved.

392. Trigonella polycarpa Boiss. & Heldr. Native of Turkey (Pamphylia and Adalia, 1845, Cotype in US, 137204). Maryland: Canton, on chrome ore piles. June 1954. Reed 33365. Adressly hairy; branching, procumbent; stipules semi-sagittate, denticulate; leaflets minute, obovate-orbiculate, denticulate; flowers 10-20, subsessile, in a dense head, 5-6 mm. long; legume appressed hairy, narrowly linear-rounded at the base, becoming attenuate at the apex, 2-2.5 cm. long. -- Boissier, Flora Orientalis, 2: 74. 1872.

393. Vicia villosa Roth. Introduced and naturalized from Europe; cultivated as forage crop throughout eastern United States; Nova Scotia to British Columbia, south to Georgia, Texas and California. Hairy or winter vetch. Maryland: Canton, on chrome ore piles. June 1954. Reed 33370.

394. Vicia angustifolia Reichard. Naturalized from Europe; eastern Canada to Michigan. Common Vetch. Maryland: Canton, on chrome ore piles. June 1954. Reed 33368.

395. Vicia peregrina L. Native of Asia Minor and Europe. Maryland: Canton, on chrome ore piles. June 1954. Reed 33358. Plant 3-6 dm. tall, provided with some hairs; stems slender, erect or decumbent; annual; leaves terminating in a branching tendril, with 3-6 pairs of linear leaflets, which are truncate and hairless; stipules not spotted, small, semi-sagittate, entire; flowers purplish, solitary, short-pedicelled; calyx with lanceolate-acuminate teeth, all nearly equal, longest equal to the tube, incurved; standard glabrous, the keel very short; style bearded; anthers oval; legume lanceolate, somewhat pubescent.

LEMNACEAE

396. Lemma minor L. Throughout North America, except the extreme south; widely distributed in the Old World. Maryland: Canton, plentiful in wet ditches. July 30, 1959. Reed 43846.

LILLIACEAE

397. Asparagus officinalis L. Canton, on chrome ore piles. June 10, 1963. Reed 62405.

LINACEAE

398. Linum usitatissimum L. Introduced from Europe; a casual weed in eastern United States. Common flax. Maryland: Canton, on chrome ore piles. Oct. 1957. Reed 39443; June 1958. Reed 40604; July 1958. Reed 40997; Oct. 1958. Reed 41354; June 1959. Reed 42974.

LYTHRACEAE

399. Lythrum salicaria L. Naturalized from Europe; Newfoundland and Quebec to Minnesota, south to Nova Scotia, New England, Virginia, West Virginia, Ohio, Indiana and Missouri. Spiked loosestrife. Maryland: Canton, in ditches near oyster shell piles. July 1958. Reed 40880.

MALVACEAE

400. Abutilon theophrasti Medic. Naturalized from India; New England, westward and southward. Maryland: Canton, common in wastes between and on chrome ore piles. Oct. 1953. Reed 32687; still common in 1960 and 1963.

401. Gossypium herbaceum L. Cultivated cotton, of southern states, north to southeastern Virginia, and casual on wastes north to New England. Maryland: Canton, on chrome ore piles, and between piles. Sept. 20, 1957. Reed 39310.

402. Hibiscus moscheutos L. Florida and Alabama, north to eastern Maryland, Virginia, West Virginia, southern Ohio and southern Indiana. Maryland: Canton, wastes along ditches. Sept. 1957. Reed 39548.

403. Malva parviflora L. Naturalized from Europe; Quebec to New Jersey and Maryland; North Dakota to British Columbia, south to Missouri, Texas, New Mexico and Mexico. Maryland: Canton, on chrome ore piles. Oct. 1953. Reed 32917; June 1954. Reed 33442 and 33422.

404. Malva rotundifolia L. Naturalized from Europe; Michigan and Indiana to the Pacific Coast and southward; Florida to Texas, north to North Carolina and Maryland. Maryland: Canton, on chrome ore piles. Oct. 1953. Reed 32911; Nov. 1953. Reed 32977.
405. Sida angustifolia Lam. Tropical America, north to Mexico, Texas and Arizona. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32719 and 32721. See Small, Flora of SE United States, p. 771. 1913.
406. Sida rhombifolia L. Adventive from the Tropics; Florida to Texas, north to southeastern Virginia, formerly to New Jersey. Virginia: Newport News, on chrome ore piles. Nov. 1959. Reed 45870.
407. Sida humilis Willd. var. veronicaefolia Lam. Native of East Indies, India, tropical Africa and America. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32730. Very variable; stem usually procumbent, branching, covered, like the leaves with a few scattered radiating hairs; petiole rather shorter than the blade; peduncles jointed in the middle, distant or arranged in a loose raceme; flowers axillary, solitary or twin; calyx-segments triangular, very acute; corolla straw-colored, scarcely exceeding the calyx; carpels 5, mucicous or shortly bicuspidate; in this var. the carpels with two longish awns.
408. Sphaeralcea angustifolia Spach. Utah and Colorado, south to Texas, Arizona and Mexico. Maryland: Canton, on chrome ore piles. June 1954. Reed 33411. Perennial, with a somewhat woody base; stem 5-15 dm. tall, subcanescent; leaves 5-12 cm. long, lanceolate or linear-oblong, crenate, the lower ones sometimes hastately lobed; flowers clustered in axils; sepals lanceolate or ovate-lanceolate, acute or short-acuminate; petals pink, 8-10 mm. long; carpels 5-6 mm. long, only the lower fourth or less rugose, rounded at the apex; fruit ellipsoid to ovate.

MORACEAE

409. Broussonetia papyrifera (L.) Vent. Introduced and naturalized from Asia; southern New England and Missouri, southward. Paper-mulberry. Maryland: Canton, common in thickets on wastes. Oct. 1957. Reed 39567 (male flowers).
410. Morus rubra L. Florida to Texas, north to southwestern Vermont, New York, southern Ontario, Minnesota and South Dakota. Maryland: Canton, wastes. Oct. 1957. Reed obs.; Aug. 1959. Reed 44394.

NYCTAGINACEAE

411. Boerhaavia coccinea Mill. Northern South America through Central America to Mexico; West Indies; Florida; tropical Africa. Maryland: Canton, on chrome ore piles. Sept. 1958. Reed 41214; Oct. 1958. Reed 41143 and 41355. Virginia: Newport News, on manganese ore piles. Nov. 1959. Reed 45869. Perennial, procumbent or ascending, 3-12 dm. tall, often pubescent, at least below, the branches glabrous or puberulent; leaves rhombic-ovate to oblong or nearly orbicular, 2-6 cm. long, 0.8-5 cm. broad, rounded or subcordate at the base, slender-petioled, entire or undulate; panicle slender, often 3 dm. long, its branches nearly filiform, glabrous or puberulent; flowers reddish, 2 mm. broad; fruit obovoid, 2.5-4 mm. long, 5-grooved, glandular. -- Britton & Wilson, l.c., 5(2): 285. 1924.
412. Boerhaavia erecta L. South America through Central America to Mexico; West Indies; southern United States; Bermuda. Maryland: Canton, on chrome ore piles. Sept. 1955. Reed 38218. Annual, erect or ascending, branched, 2-10 dm. tall; leaves ovate to deltoid-ovate, sometimes inequilateral, 2-7 cm. long, 1-4.5 cm. broad, apiculate, repand or undulate, acute to cordate at the base, minutely brown-dotted on the lower whitish surface, the petioles usually about one-half as long as the blades or longer; peduncles filiform; flowers 2-6 in a cluster; calyx white to purple, its tube glabrous, the limb campanulate, 1-1.5 mm. long, sparingly pubescent; stamens exerted; fruit obpyramidal, 3-3.5 mm. long, 1-1.5 mm. broad at the truncate apex, 5-angled, glabrous. -- Britton & Wilson, l.c., 5(2): 286. 1924.
413. Mirabilis nyctaginea (Michx.) MacM. Wisconsin and Manitoba to Montana, south to Alabama, Louisiana and Texas; adventive eastward to Atlantic states. Kentucky: Rowan Co., along C&O RR at Morehead. July 1948. Reed 13238; Mason Co., wastes along C&O RR, at Maysville. Aug. 1959. Reed 44577; Marion Co., roadsides, 4 mi. N of Lebanon. Aug. 1959. Reed 45163 and 45167. Maryland: Queen Anne Co., wastes just S of Queen Anne. July 1957. Reed 38918 and Oct. 1957. Reed 39927; Talbot Co., wastes near swamp, 2 mi. sw of Queen Anne. July 1957. Reed 38992; Montgomery Co., along B&O RR., Chevy Chase. May 1941. E. Winkler. (US); railway embankment, Chevy Chase Lake. May 1916. Maxon & Standley. (GH, US); Prince Georges Co., along B&O RR, near Branchville. Sept. 1943. S.H. Newcomer. (US); Frederick Co., abundant along B&O RR, 2 mi. down Potomac R. from Point of Rocks. June 1948. O.M. Freeman. (US). New Jersey: Atlantic Co., common in fields south of Hammonton. June 1954. Reed 33517. Ohio: Scioto Co., common in RR yards at Portsmouth. Aug. 1959. Reed 44508. Pennsylvania: Franklin Co., along RR tracks, frequent, Greencastle. May 1960. Reed 46419. West Virginia: Jefferson Co., edge of woods along Shenandoah River near Harpers Ferry. Aug. 1952. Reed 29901.

ONOGRACEAE

414. Epilobium hirsutum L. Naturalized from Europe; southern Quebec and southern Ontario, south to southern New England, New York, Ohio, Michigan and northern Illinois. Maryland: Canton, large patch in wastes. Oct. 1957. Reed 39575; on chrome ore piles. Oct. 1959. Reed 45712.

415. Oenothera biennis L. Newfoundland to southeastern Alberta, south to Florida, Tennessee, Arkansas, North Dakota and Idaho. Maryland: Canton, common on wastes. Oct. 1957. Reed 39566.

PALMAE

416. Phoenix dactylifera L. Native of Old World tropics. Maryland: Canton, on chrome ore piles. Seedlings, not persistent. Nov. 1958. Reed 41362.

PAPAVERACEAE

417. Argemone alba Lestib. f. Florida to Texas and Missouri. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32710, 32767 and 32850; June 1954. Reed 33421. Foliage pale or somewhat glaucous, spine-armed; stems rather stout, 3-5 dm. tall, not pubescent; leaves 3-15 cm. long, the blades pinnately lobed or pinnatifid, sometimes whitish along the veins, the midrib slightly prickly; flowers pedicelled, the sepals 1.5-2 cm. long, the horns erect or nearly so, the terminal spine 1-1.5 mm. long, distinctly flattened, the corolla white, 7-10 cm. broad; capsules oval or oblong, 2.5-4 cm. long. -- Small, l.c., p. 462.

418. Argemone mexicana L. Naturalized from tropical America; Texas to Florida, north to New Jersey and Pennsylvania. Maryland: Canton, on chrome ore piles. July 1958. Reed 41005; June 1959. Reed 42972; Aug. 1959. Reed 44347; Oct. 1959. Reed 45812. Virginia: Newport News, on iron ore piles. Aug. 1959. Reed 44044; on chrome ore piles. Nov. 1959. Reed 45881. Foliage glaucous; stems 3-9 dm. tall, more or less spiny; leaves 10-25 cm. long, the blades runcinate-pinnatifid, blotched, spiny-toothed and commonly spiny along the midrib, sessile and clasping; flowers sessile or nearly so, the sepals acuminate and bristle-tipped, the corolla yellow, orange or creamy, 2.5-7 cm. broad; capsules oblong, 2.5-3 cm. long, spine-armed. -- Small, l.c., p. 462.

419. Hypocoum pendulum L. Native of southern Europe and the Orient; North Africa. Maryland: Canton, on chrome ore piles. June 1956. Reed 38820. Stems about 10 cm. tall, erect, dichotomous with one or two flowers in each dichotomy, surpassing in length the radicle leaves; the radicle leaves standing erect,

soft, 4-7 cm. tall, divided into long filiform segments; flowers small, yellow and peduncled; the external petals ovate-oblong, the internal trilobed, the median lobe dentate-ciliate or rarely entire; silique cylindrical, not articulated, entirely pendant.

PASSIFLORACEAE

420. Passiflora foetida L. var. isthmia Killip. (Det. E.C. Leonard). Native from Panama to Ecuador and Colombia. Maryland: Canton, on chrome ore piles. Oct. 1958. Reed 41171. Stem, petiole and peduncles densely hirsute, with spreading yellow-brown hairs, averaging 2 mm. long, petiole sparingly glandular-ciliate; leaves suborbicular in general outline, 3.5-7 cm. long, 4-9 cm. wide (lateral lobes usually reduced to a short tooth, the middle lobe ovate-deltoid), hirsute; bracts densely pilose when young, the segments closely interwoven; ovary glabrous; fruit 2-2.5 cm. in diameter, yellowish. This variety has the characteristic bracts and indument of var. hispida, but the lateral lobes of the leaves are greatly reduced and the bracts are densely long-pilose, though occasionally they become glabrescent with age.

PHYTOLACCACEAE

421. Phytolacca americana L. Florida to Texas, north to New England, southern Quebec, New York and southern Ontario. Pokeweed. Maryland: Canton, on wastes between chrome ore piles and in other wastes. July 1959. Reed 43841.

422. Phytolacca bogotensis HBK. Native of Colombia to Peru and Chile. Maryland: Canton, on chrome ore piles. Oct. 1953. Reed 32897 and 32898. Smooth, green, tree-like shrub, branches stout, scarcely or little angled; petioles to 4 cm. long, grooved and angled; leaf-blades oblong-elliptic or broadly lanceolate, acute at both ends or acuminate, the base decurrent, to about 16 cm. long and 4 cm. broad; racemes suberect, many-flowered, to only 4.5 cm. long and 13 mm. thick, the peduncles to 1 cm. long; flowers perfect, the pedicels 3 mm. long; stamens (8-12) and sepals subequal; ovary 8-10 carpellate, the carpels completely joined; fruit baccate.

423. Phytolacca icosandra L. Continental tropical America, from Peru and Brazil, north to Mexico; West Indies. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32777; Oct. 1953. Reed 32676 and 32884. Stems erect, glabrous, or puberulent above, branched, somewhat succulent, 1-3 m. tall; leaves elliptic to ovate-lanceolate, membranous, 8-20 cm. long, acute or acuminate at the apex, narrowed at the base, the rather stout petioles 1-5 cm. long; racemes erect, densely many-flowered, 1-3 dm. long; pedicels 2-4 mm. long; flowers greenish-white or yellowish, the sepals reddish-white, rounded, the stamens 8-20, the carpels 8-20; berry black, depressed-globose, about 8 mm. in diameter. -- Britton & Wilson, l.c., 5(2): 293. 1924.

PLANTAGINACEAE

424. Plantago lanceolata L. Naturalized from Europe; a troublesome weed throughout eastern United States. Maryland: Canton, on chrome ore piles. May 1958. Reed 40409; on pumice piles, from Italy. Aug. 20, 1963. Reed 65423.

425. Plantago major L. Naturalized from Europe; a semi-cosmopolitan weed. Maryland: Canton, on and between chrome ore piles. Nov. 1953. Reed 33030 and 33033; Nov. 1958. Reed 41740.

PLATANACEAE

426. Platanus occidentalis L. A native tree, found in wastes in Canton. Oct. 1957. Reed obs. Sycamore.

POLEMONIACEAE

427. Leptodactylon pungens (Torr.) Rydb. Montana to Washington, south to California and Mexico. Maryland: Canton, on chrome ore piles. Oct. 1953. Reed 32876. Suffruticose plants, with stem rather woody above the base; stems several to many branches, densely leafy, glabrate to viscid-puberulent; leaves alternate or subopposite above, the lower ones sometimes opposite, with 3-7 acerose-linear subulate divisions 3-9 mm. long, glabrate to glandular-puberulent; calyx about 7-15 mm. long, tubular, glabrate to glandular-puberulent, the teeth acerose, much shorter than the tube, this membranous below sinuses and ciliate at apex; corolla 15-20 mm. long, white or cream-colored, sometimes purplish in the throat, lobes about 6-8 mm. long. -- Harrington, Man. Plants Colorado, p. 449. 1954.

POLYGONACEAE

428. Rumex pulcher L. Naturalized from Europe; Florida to Mexico and California, north to Maryland, and locally to Long Island, Arkansas and Oklahoma. Maryland: Canton, wastes near chrome ore piles. Sept. 1955. Reed 38236.

429. Polygonum aviculare L. Naturalized from Europe; an ubiquitous weed in eastern United States. (Incl. P. neglectum Besser). Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32857; Sept. 1954. Reed 34385; July 1958. Reed 41002; Aug. 1959. Reed 44363.

430. Polygonum cilinode Michx. Newfoundland to Saskatchewan, south to Nova Scotia, New England, northern New Jersey, Pennsylvania, West Virginia, upland to North Carolina, Tennessee, Michigan, Wisconsin and Minnesota. Maryland: Canton, on chrome ore piles. Oct. 1954. Reed 35226; July 1959. Reed 45838.

431. Polygonum lapathifolium L. Native of Europe; Newfoundland to British Columbia, and southward. Maryland: Canton, on chrome ore piles. Sept. 1954. Reed 34383; Sept. 1957. Reed 39316; July 1958.

Reed 40882 and 40893; Sept. 1958. Reed 41208; Aug. 1959. Reed 44387; Sept. 1960. Reed 48060.

432. Polygonum persicaria L. Naturalized from Europe; a weed throughout eastern United States. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32805; Sept. 1954. Reed 34378; Sept. 1957. Reed 39315; Aug. 1959. Reed 44370.

433. Polygonum scandens L. Florida to Texas, north to Nova Scotia, southern Quebec and Manitoba. Maryland: Canton, on wastes. Oct. 1957. Reed 39414; Port Covington. Nov. 1957. Reed 39486.

434. Polygonum prolificum (Small) Robins. Southern Maine, south to Virginia; Minnesota to Saskatchewan and Washington, south to Arkansas, Oklahoma and eastern Texas. Maryland: Canton, on chrome ore piles. July 1958. Reed 41011; Sept. 1955. Reed 38212.

435. Polygonum prolificum var. autumnale forma laterale Brenckle. Montana and South Dakota. Maryland: Canton, on chrome ore piles. Oct. 1954. Reed 35209.

436. Polygonum bellardi All. Native of Eurasia; Maryland and District of Columbia. (Dr. Geo. Vasey, 1889, in US, Agr. Grounds, D.C.). Maryland: Canton, on chrome ore piles. June 1954. Reed 33441. Descr. in Gleason, l.c., 2: 75. 1952.

437. Polygonum ramosissimum Michx. Ontario to Saskatchewan and Washington, south to Indiana, Oklahoma and New Mexico, and eastward to the Atlantic Coast. Maryland: Canton, on chrome ore piles. June 1954. Reed 33448.

438. Polygonum ramosissimum forma atlanticum Robins. Maine to Delaware and Maryland, west to Minnesota and Iowa. Maryland: Canton, on chrome ore piles. Oct. 1956. Reed 38245; Sept. 1957. Reed 39536.

439. Polygonum douglasii Greene. Quebec to British Columbia, south to New England, northern New York, northern Michigan, Minnesota, Oklahoma, New Mexico and California. Maryland: Canton, on chrome ore piles. July 1959. Reed 43625.

440. Polygonum hydropiperoides Michx. Florida to Texas, north to Nova Scotia, southern Quebec, southern Ontario, Michigan, Wisconsin, Minnesota and Nebraska. Maryland: Canton, wastes near chrome ore piles. Aug. 1959. Reed 44371.

441. Polygonum pensylvanicum L. Florida to Texas, north to western Nova Scotia, Massachusetts, southern Ontario, southern Michigan, southern Minnesota and Oklahoma. Virginia: Newport News, on chrome ore piles. Nov. 1959. Reed 45873.

PORTULACACEAE

442. Portulaca oleracea L. Naturalized from Europe; a common weed in southern United States, north to southern Canada. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32816 and 32733 (leaves very small); Sept. 1955. Reed 38213. Virginia: Newport News, on chrome ore piles. Aug. 1959. Reed 44064.

443. Portulaca parvula Gray. Western Missouri to Colorado, south to Oklahoma, Texas, New Mexico and Mexico. Virginia: Newport News, wastes along C&O RR, at port. Aug. 1959. Reed 44076.

PRIMULACEAE

444. Anagallis arvensis L. Naturalized from Europe; a common weed in cultivated places. Maryland: Canton. July 1904. C.C.Plitt; on chrome ore piles. Sept. 27, 1953. Reed 32794; on pumice piles. Aug. 20, 1963. Reed 65417.

445. Anagallis arvensis L. forma caerulea (Schreb.) Baumb. Flowers bright blue. Maryland: Canton, on chrome ore piles. June 1954. Reed 33447; Oct. 1954. Reed 35233. Maryland: Washington Co., in limestone fields, Round the Knob, near Dargon. July 1956. Reed 37943.

RANUNCULACEAE

446. Ranunculus sceleratus L. Eurasia; Newfoundland to Alaska, south to Nova Scotia, New England, Florida, Louisiana, Arkansas, New Mexico and California. Maryland: Canton, wet ditches near oyster shall piles. May 1958. Reed 40412; on chrome ore piles. July 1959. Reed 43622.

447. Ranunculus bulbosus L. Native of Europe; Naturalized in fields, meadows and lawns. Maryland: Canton, edge of chrome ore piles, Newkirk St. May 24, 1960. Reed 46318.

RESEDACEAE

448. Reseda luteola L. Introduced from Europe; New England to Illinois, Delaware and Maryland. Maryland: Canton. May 1900. C.C.Plitt; on chrome ore piles. Nov. 1953. Reed 32999.

449. Reseda lutea L. Adventive from Europe; Maine to Michigan, south to Iowa, Pennsylvania and Maryland. Maryland: Canton, on ballast lot. May 1900. C.C.Plitt; Oct. 1900. C.C.Plitt. (Reed Herb.) May 1903. C.C.Plitt. (Reed Herb.); July 1904 and Aug. 1902. C.C.Plitt; on chrome ore piles. June 1956. Reed 38814. Maryland: Carroll Co., along roadside near Westminster. May 1960. Reed 46447.

ROSACEAE

450. Fragaria virginiana Duchesne. Newfoundland to Alberta, south to Nova Scotia, New England, Georgia, Tennessee and Oklahoma. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32764.
451. Potentilla novejica L. Europe; Greenland and Labrador to Alaska, south through the United States. Maryland: Canton, on chrome ore piles. June 1954. Reed 33428.
452. Potentilla recta L. Naturalized from Europe; Newfoundland to Ontario and Minnesota, south to Nova Scotia, New England, Virginia, Tennessee, Arkansas and southeastern Kansas. Maryland: Port Covington, on wastes. Nov. 1957. Reed 39480.
453. Prunus serotina Ehrh. Florida to Texas and Mexico, north to Nova Scotia, southern Quebec, southern Ontario, Minnesota and South Dakota. Maryland: Canton, on wastes. Oct. 1957. Reed 39557.
454. Pyrus coronaria L. Central New York and southern Ontario, south to Wisconsin, Delaware, upland to North Carolina, Tennessee and Missouri. Maryland: Canton, in thickets. Oct. 1957. Reed obs.
455. Pyrus malus L. Introduced and naturalized from Eurasia. Maryland: Canton, on wastes. Oct. 1957. Reed obs.
456. Rubus laciniatus Willd. Cultivated and naturalized from the Old World; Massachusetts to Michigan and southward. Maryland: Canton, on wastes near coast and oyster shell piles, large acreage. Nov. 1953. Reed 32981; Sept. 1957. Reed 39542; Oct. 1959. Reed 45803.
457. Sanguisorba minor Scop. Adventive from Eurasia; Nova Scotia to Ontario, south to Virginia and Tennessee. Maryland: Canton, on chrome ore piles. Oct. 1953. Reed 32877; Baltimore Co.; near Cub Hill, in fields. May 1959. Reed 43120; Baltimore City, Druid Hill Park. June 1907. W.R. Jones. (Reed Herb.).

RUBIACEAE

458. Galium aparine L. Eurasia; Newfoundland to Alaska, south to Nova Scotia, New England, Florida and Texas; both native and introduced. Maryland: Canton, wastes near chrome ore piles. April 1958. Reed 40700.
459. Galium tricornis Stokes. Adventive from Europe; sporadic and infrequent in eastern United States. Maryland: Canton, on wastes. June 1954. Reed 33389.

460. Spermacoce glabra Michx. Florida to Texas, north to southern Ohio, southern Indiana, southern Illinois, Missouri and southeastern Kansas. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32852; Oct. 1953. Reed 32901; Oct. 1954. Reed 35196.

461. Diodia radula Cham. & Schlecht. (Spermacoce radula Willd. in Roem. & Schultes). Native of Brazil. Virginia: Newport News, on chrome ore piles, from India. Nov. 1959. Reed 45917. Stems herbaceous, weak, tetragonal, smoothish; leaves ovate-lanceolate, acute, lined, scabrous above and downy on the nerves beneath; stipules downy, ciliated; whorls of 6-10 flowers; calyx unequal, 5-10 toothed, ciliated; fruit didymous.

SALICACEAE

462. Populus alba L. Introduced and naturalized from Europe; a frequent weedy tree. Maryland: Canton, wastes. Oct. 1957. Reed 39574; Aug. 1959. Reed 44396.

463. Populus deltoides Marsh. Southwestern Quebec to Manitoba, south to western New England and southward in United States. Maryland: Canton. July 1958. Reed 41014; Port Covington. Nov. 1957. Reed 39481.

464. Salix babylonica L. Introduced from Eurasia; Quebec and Ontario, southward. Maryland: Canton, common in wastes. Aug. 1959. Reed 44390.

465. Salix nigra Marsh. New Brunswick to North Dakota, south to southern New England, Long Island, North Carolina, locally to Alabama, Tennessee and Arkansas. Maryland: Canton, common in wastes. Aug. 1959. Reed 44393.

SCROPHULARIACEAE

466. Kickxia elatine (L.) Dumort. Naturalized from Europe; Massachusetts to Indiana, south to Florida, Alabama and Missouri. Maryland: Canton, on ballast. July 1904. C.C.Plitt. (Reed Herb.); on chrome ore piles. Oct. 1953. Reed 32686; June 1954. Reed 33450; Oct. 1954. Reed 35225; Sept. 1955. Reed 38225; June 1955. Reed 38817; Aug. 1956. Reed 37970.

467. Linaria vulgaris Hill. Naturalized from Europe; throughout eastern United States. Maryland: Canton, common on wastes and along RR tracks. Oct. 1900. C.C.Plitt; Oct. 1954. Reed 35186; Sept. 1957. Reed 39541.

468. Maurandya antirrhiniflora H. & B. Texas to Arizona and Mexico. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32853. Description in Small, Fl. SE United States, p. 1056, under Antirrhinum antirrhiniflorum (Poir.) Small.
469. Gerardia purpurea L. Florida to eastern Texas, north to southern New England. Virginia: Newport News, at foot of chrome ore piles. Nov. 1959. Reed 45880.
470. Verbascum blattaria L. Naturalized from Europe New England to Ontario, and southward. Maryland: Canton. July 1904. C.C.Plitt; common on wastes near chrome ore piles. Reed obs.
471. Verbascum thapsus L. Naturalized from Europe; throughout eastern United States. Maryland: Canton, July 1904. C.C.Plitt; common on wastes near chrome ore piles. Aug. 1959. Reed 44353.
472. Verbascum sinuatum L. Native of Mediterranean North Africa, Algeria, etc. Maryland: Canton. July 1904. C.C.Plitt. (Reed Herb.); frequent on wastes in various parts of Canton. Sept. 1955. Reed 38223; Aug. 1956. Reed 37969; June 1956. Reed 38810 and 38812; June 1957. Reed 38793; Oct. 1957. Reed 39413; Aug. 1959. Reed 44342; on chrome ore piles. July 1959. Reed 43630 and 43831. Plants 5-20 dm. tall, branched, the branches standing erect; leaves briefly tomentose, sinuously pinnatifid, the lobes undulated, toothed or incised, the blades 3-5 dm. long, 10-18 cm. broad; flowers yellow, medium-sized, in fascicles forming a large panicle, interrupted above; the filaments covered with violet hairs, the anthers alike; capsules small, extending a little beyond the calyx; the peduncles short.
473. Veronica arvensis L. Naturalized from Europe; Newfoundland to Minnesota, and southward. Maryland: Canton, on chrome ore piles. April 1958. Reed 40705; May 1958. Reed 40413; May 24, 1960. Reed 46321.
474. Veronica peregrina L. Naturalized from Europe; Quebec to Minnesota, south to New England, Florida, Louisiana and eastern Texas; Alaska to Oregon. Maryland: Canton, wastes. Apr. 1958. Reed 40695.

SIMARUBACEAE

475. Ailanthus altissima (Mill.) Swingle. Introduced and naturalized from Asia; Massachusetts to southern Ontario and Iowa, and southward. Maryland: Canton, common on wastes. Oct. 1957. Reed 39561.

SOLANACEAE

476. Capsicum frutescens L. Old World tropics; continental tropical America, West Indies, Bermuda, SE United States. Cultivated peppers. Maryland: Canton, on chrome ore piles. Nov. 1953. Reed 32995.
477. Datura meteloides DC. Native of Colorado to California, south to Mexico. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32762, 32664 and 32804; Oct. 1953. Reed 32879; Sept. 1955. Reed 38237; Oct. 1959. Reed 45813.
478. Datura quercifolia HBK. Native of Mexico, north to Arizona and Texas. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32665, 32712, 32738, 32773, 32833; Oct. 1954. Reed 35250 and 35184; Sept. 1957. Reed 39312; Oct. 1958. Reed 41347. Stems purple, erect, 0.5-1.5 m. tall; stem and leaves slightly downy or pubescent; leaves deeply pinnately lobed; flowers with corolla pale lavender, 4-7 cm. long, 2 cm. wide; calyx one-half as long as the 5-toothed corolla; anthers purple; capsule ovoid, 6-7 cm. wide, including the spines; spines very unequal in size, larger at the top of capsule.
479. Datura stramonium L. Naturalized from Asia; southern Canada, southward through United States. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32675; Oct. 1954. Reed 35188; Sept. 1957. Reed 39312; Locust Point. July 1959. Reed 43822 and 43817.
480. Datura stramonium L. var. tatula (L.) Torr. Naturalized from Asia; common in southern United States, north into the northern states. Maryland: Locust Point, wastes along B&O RR. July 1959. Reed 43818 (flowers purplish).
481. Lycium halimifolium Mill. Introduced from Europe; southern Canada, southward. Maryland: Canton, wastes near chrome ore piles. Sept. 27, 1953. Reed 32690; Port Covington. Nov. 1957. Reed 39477.
482. Nicandra physalodes (L.) Pers. Introduced from Peru; Nova Scotia to Indiana and Missouri, south to Louisiana. Maryland: Canton, on chrome ore piles. Oct. 1954. Reed 35185.
483. Nicotiana glauca Graham. Native of Argentina; tropical America; Bermuda; seaports along Gulf Coast and California; on ballast northward. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32834. Descr. in Small, l.c., p. 995.
484. Nicotiana trigonophylla Dunal. Texas to California and Mexico. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32786 and 32845; Oct. 1953. Reed 32685.

485. Nicotiana plumbaginifolia Viv. Native of South America from SW Argentina to SW Brazil, north to Peru and Ecuador; Guatemala and Mexico; Trinidad, Isle of Pines and Cuba; Florida Keys. Early introduced in India. Maryland: Canton, on manganese ore piles. Oct. 1959. Reed 45700. Descr. in Goodspeed, Chron. Bot. 16(1-6): 403-404. 1954.

486. Petunia parviflora Juss. Naturalized from tropical America; Florida to southern California, north to Virginia and Maryland, and casually to southern New York. Maryland: Canton, on chrome ore piles and between RR tracks, common. Sept. 27, 1953. Reed 32663 and 32747; Nov. 1953. Reed 33037; June 1954. Reed 33361; Oct. 1954. Reed 35204; June 1955. Reed 36548; Sept. 1955. Reed 38217; Sept. 1957. Reed 39308; Sept. 1958. Reed 41212; June 1959. Reed 42971; July 1959. Reed 43648; Aug. 1959. Reed 44341; Sept. 1960. Reed 48059; on manganese ore piles, Newkirk St. Aug. 1961. Reed 52152.

487. Petunia violacea Lindl. Introduced from South America; escaped from gardens and persistent, from eastern Pennsylvania, southward. Maryland: Canton, on wastes near chrome ore piles. Sept. 20, 1957. Reed 39322.

SARACHA R. & P. (Flora Peruviana, 2: 43, t. 180b; char. emend., Miers, Ill. S. Amer. Pl. II: 15. 1849-57). Calyx short, submembraneous, 5-angled, 5-toothed, 5-nerved, the teeth acute and short, persistent; corolla rotate, the edge sinuate, 5-angulate, very often 15-nerved, the lobes reflexed; stamens 5, affixed to the tube of the corolla near the basal margin; filament filiform, erect, dilated triangular at the base; anthers approximate, oblong or subrotund, basifixed, 2-lobed, the lobes tightly connate and dehiscent longitudinally forward; ovary ovate, 2-locular, the placentae crowded, adnate to the septa, multiovulate; style simple, length of the stamens; stigma bilobed capitate; berry globose, the membraneous calyx suffused but very little; seeds many, imbedded in pulp, small, reniform; testa scrobiculate, the hilum in a lateral sinus; embryo semicircled within the albumen, rounded, the cotyledons semiterete, uncinata; radicle a little reflexed beneath the hilum.

488. Saracha procumbens R. & P. Native of Peru. Maryland: Canton, Newkirk St., on chrome ore piles. Sept. 27, 1953. Reed 32771; Oct. 12, 1953. Reed 32871. Herb procumbent-ascending, laxly dichotomously branched, lightly pubescent; stems sulcate; petioles margined by the decurrent leaves, 1-2 cm. long; leaves solitary below, geminate above, subobtusate or acute, the larger often 5-8 cm. long, 3-5 cm. wide, early pubescent beneath, finally lustrous and glabrous both sides, entire or undulate; solitary axillary peduncles 2-4-(6)-flowered, 8-10 mm. long; pedicels to twice as long and nutant in fruit, pilose or glabrate as the calyces; corolla ochroleucous, green-centered, early ovate, plicate, soon rotate-campanulate, marginally sublanate; filaments glabrous

and equal; berry lustrous, black, edible. -- Macbride, Flora of Peru, Field Mus. Nat. Hist., Publ. 951, Bot. Ser. 13: 36. 1962.

489. Solanum carolinense L. Native of southeastern United States, north to Virginia and Kentucky, and as a weed northward to Vermont, Ontario, Michigan and Minnesota, and west to Idaho and Washington. Maryland: Canton, on chrome ore piles. Sept. 1957. Reed 39542.

490. Solanum carolinense L. forma albiflorum Blake. Maryland: Canton, on wastes. Sept. 1957. Reed 39539. A white-flowered form, found with the typical purple-flowered form.

491. Solanum elaeagnifolium Cav. Native of Mexico and southwestern United States, northeast to Missouri, adventive to Indiana, Ohio, Maryland and Florida. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32854; June 1954. Reed 33435.

492. Solanum nigrum L. Naturalized from Europe; Nova Scotia to Florida, and locally westward. (Incl. S. interius Rydb.). Maryland: Canton. Aug. 1902. C.C.Plitt; on chrome ore piles. Sept. 27, 1953. Reed 32789.

493. Solanum nigrum var. villosum Mill. Adventive from Eurasia; Massachusetts, southward. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32667 and 32796; Oct. 1953. Reed 32880.

494. Solanum rostratum Dunal. Native from North Dakota to Wyoming, south to Mexico; introduced eastward to most of the eastern and northern states. Maryland: Canton. July 1901. C.C.Plitt. (Reed Herb.); Aug. 1902. C.C.Plitt; on chrome ore piles. Sept. 27, 1953. Reed 32855 and 32768; Oct. 1953. Reed 32872; Nov. 1953. Reed 33026.

495. Solanum surattense Burm. Native of Punjab (US). Maryland: Canton, on chrome ore piles, forming huge mats, 6 ft. in diameter. Aug. 1959. Reed 44345 and 44349; Oct. 1959. Reed 45820.

496. Solanum torvum Sw. Native of Old World Tropics; continental tropical America; West Indies; Florida. Maryland: Canton, on chrome ore piles. Oct. 1958. Reed 41166 (Plants 5-8 ft. tall). Descr. in Britton & Wilson, l.c., 6(2): 170. 1925.

497. Solanum nodiflorum Jacq. (Fl. Puerto Rico, non S. nodiflorum Dunal = S. nigrum; Fl. Bermuda says S. nodiflorum Jacq. = S. nigrum). Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32791; Oct. 1953. Reed 32906. Our plants look different than those of S. nigrum L.

498. Solanum deflexum Greenm. Native of Arizona. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32736.

STERCULIACEAE

499. Melochia corchorifolia L. Native from South Carolina to Florida, west to Louisiana and Texas; Africa (Senegal, Nigeria, Sierra Leone, Fr. Sudan); Canton, China. Maryland: Canton, on chrome ore piles. Aug. 1959. Reed 44360; Oct. 1959. Reed 45697. Herb, more or less woody at base, 4-11 dm. tall, glabrous or sparingly hispidulous; leaf-blades ovate or ovate-lanceolate, 2-6 cm. long, acute, serrate or dentate-serrate, rounded or truncate at the base; petioles 1-3 cm. long; flower clusters chiefly in dense terminal heads accompanied by leaf-like bracts; sepals linear, 5-6 mm. long; petals pale purple above the yellow claws, 4-6 mm. long; capsules about 4 mm. high, globose, loculicidal and septicidal. (Riedlea Vent.)

500. A form concatenata (L.) has the branches of the cyme lengthened and spike-like with the flowers on one side only. Plants are more decumbent also. (M. concatenata L., or M. supina L., Sp. Pl., 944). Virginia: Newport News, on chrome ore piles., from India. Nov. 1959. Reed 45898. Native of East Indies and West Africa.

TYPHACEAE

501. Typha angustifolia L. Eurasia; Nova Scotia and southern Quebec, south to South Carolina, West Virginia, Kentucky, Missouri and Nebraska; California. Maryland: Canton, in wet places. Oct. 1957. Reed 39573.

502. Typha latifolia L. Eurasia; North Africa; Newfoundland to Alaska, southward throughout most of the United States into Mexico. Maryland: Canton, wet wastes between chrome ore piles. July 1959. Reed 43646.

ULMACEAE

503. Celtis occidentalis L. Massachusetts to Idaho, south to northern Florida, Tennessee, Arkansas and Oklahoma. Maryland: Canton, on wastes and in thickets, common. Oct. 1957. Reed 39555 and 39577.

UMBELLIFERAE

BIFORA Hoffm. Calyx entire; petals obovate, emarginate, with one lobe bent inwards; achene globose to subglobose, with 10 ridges, the primary ones represented by 5 faint ridges, the secondary one large, tuberculate, projecting a little; 2 orifices on the commissure; the seed distinctly concave on the side of the commissure.

504. Bifora testiculata DC. Native of south-central Europe (France, Italy). Maryland: Canton, on chrome ore piles. June 1954. Reed 33382. Plants 2-3 dm. tall, glabrous, grayish-green, fetid odor; stems erect, angular, striated, branched; raceme slender; umbels of 2-3 striated rays; umbelles of 2-3 always fertile flowers; involucre and involucel of a short linear leaflet; petals white, nearly alike; styles bent outward, equalling the stylopodium; fruit very rugose, sloping at the base, prolonged at the summit into a short conical, obtuse tip; radicle leaves petiolate, pinnate, the segments tripartite, the lobes cuneiform, incised or dentate; the cauline leaves bipinnate, the segments linear, acute; the uppermost leaves sessile.

505. Bupleurum odontites L. Native of southern Europe. Maryland: Canton, on chrome ore piles. June 1954. Reed 33408. Annual, with linear-setaceous, 3-nerved leaves; fruit oblong, with acute ribs, the furrows on the fruit with a single stripe; partial bracts 5, far exceeding the flowers, aristate-cuspidate, pellucid and veinless beyond the lateral nerves.

506. Bupleurum protractum Link & Hoffm. Native of southern Europe; France and Corsica. Maryland: Canton, on chrome ore piles. June 1954. Reed 33386. Annual, with perfoliate leaves; the stem-leaves ovate-oblong, acuminate; partial bracts 5, mucronate; umbel about 3-rayed; fruit tubercled. Distinguished from B. rotundifolium L. by the umbels being 2-3 rays or more; by the involucre being very elongated at maturity; by the styles being longer; by the fruits being larger, more oval, strongly wrinkle-tuberculate; and by the branches being more erect.

CYCLOSPERMUM Lag. Herbs, with decompound or dissected leaves and compound umbels of small white flowers, mostly opposite the leaves; involucre and involucels wanting in this genus; calyx-teeth very small or obsolete; petals entire, stylopodium depressed; style short; fruit ovate or oblong, laterally compressed; carpels with 5 filiform ribs, the oil-tubes solitary in the intervals, 2 on the side of the commissure.

507. Cyclospermum leptophyllum (Pers.) Sprague. (Pimpinella leptophylla Pers.). Introduced as a weed from the Old World and Australia; West Indies; Bermuda; Mexico to Paraguay; southern United States. Maryland: Canton, on chrome ore piles. July 1958. Reed 41007 (fl.); Oct. 1958. Reed 41160 (fr.). Plants slender, glabrous, much-branched, 0.7-6 dm. tall; leaves ternately pinnatisected, the ultimate segments narrow, often incised; umbels 1-4 cm. broad, opposite the leaves, sessile, the umbellets filiform-stalked; fruit ovate, glabrous, about 2 mm. long, the ribs equal and prominent.

508. Daucus carota L. Naturalized from Europe; a weed from Quebec westward and southward. Queen Anne's-lace. Maryland: Canton, common on wastes. July 1959. Reed 40878.

509. Eryngium campestre L. Native of central and southern Europe, eastward to the Caucasus and Urals, northward to Denmark; introduced in England; on ballast in Ireland. Maryland: Canton. June and July 1901; July 1902. C.C.Plitt. Radical leaves subternate, the lobes pinnatifid, with lanceolate lobes, waved and coarsely toothed, bordered and terminated by strong prickles; heads of flowers numerous and small; the involucre leaves more or less pinnately toothed; the scales or bracts within the heads narrow and mostly entire.

510. Foeniculum vulgare Mill. Introduced and naturalized from Europe; Connecticut to Michigan, Nebraska and southward. Maryland: Canton. July 20, 1901. C.C.Plitt. Virginia: Newport News, along C&O RR. Aug. 1959. Reed 44084.

511. Pastinaca sativa L. Introduced and naturalized from Europe; a weed throughout eastern United States. Maryland: Canton, wastes. frequent. June 1959. Reed 42970.

512. Torilis japonica (Houtt.) DC. Naturalized from Eurasia; New York to Iowa, south to Florida and Texas. Maryland: Canton, on chrome ore piles. June 1954. Reed 33390.

URTICACEAE

513. Boehmeria cylindrica (L.) Sw. Florida to Texas, north to Maine, southern Quebec, southern Ontario and Minnesota; West Indies. Maryland: Canton, wastes in ditches. Aug. 1959. Reed 44391.

514. Urtica dioica L. Naturalized from Eurasia; Newfoundland to Manitoba, south to Nova Scotia, New England, Virginia and Illinois. Maryland: Canton, common in ditches. Oct. 1957. Reed 39583.

515. Urtica ballotifolia Wedd. Native of Peru, Bolivia, Colombia, Ecuador and Venezuela. Maryland: Locust Point, large patches in wastes along RR embankment. July 28, 1959. Reed 43820.

VERBENACEAE

516. Lippia nodiflora (L.) Michx. Florida to Texas and Mexico, north to southeastern Virginia, southeastern Missouri and Oklahoma. Maryland: Canton, on chrome ore piles and in ditches. July 1959. Reed 43623 and 43833; Aug. 1959. Reed 44358.

517. Verbena bipinnatifida Nutt. Alabama to Arizona and Mexico, north to Missouri and South Dakota. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32732; Oct. 1953. Reed 32910.

518. Verbena hastata L. Throughout most of United States. Maryland: Canton, common on wastes. Sept. 1957. Reed 39550.

519. Verbena officinalis L. Naturalized from Europe; Florida to Louisiana, north to New England, West Virginia and Tennessee. Maryland: Canton, on chrome ore piles. Sept. 1955. Reed 38232; June 1956. Reed 38823; Aug. 1956. Reed 37973; Sept. 1957. Reed 39535.

520. Verbena scabra Vahl. Native from southeastern Virginia to Florida and the Greater Antilles, west to Arizona, California and northern Mexico. Maryland: Canton, on chrome ore piles. July 1958. Reed 40998.

521. Verbena urticifolia L. Northern Florida to Texas, north to southeastern Quebec, southern Ontario and South Dakota. Maryland: Canton, common on wastes. Aug. 1959. Reed 44354.

VIOLACEAE

522. Viola arvensis Murr. Naturalized from Europe; throughout eastern United States. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32795.

VITACEAE

523. Parthenocissus quinquefolia (L.) Planch. Florida to Texas and Mexico, north to southeastern Maine, New Hampshire, Vermont, southwestern Quebec, New York, Indiana, Illinois and Minnesota. Maryland: Canton. Oct. 1880. Geo. L. Smith. (Reed Herb.); common on wastes. Oct. 1957. Reed 39554.

524. Vitis vulpina L. Florida to Texas, north to southeastern New York, Pennsylvania, West Virginia, Ohio, Indiana, Illinois, Missouri and eastern Kansas. Maryland: Canton, wastes on trees. Oct. 1957. Reed 39556.

ZYGOPHYLLIACEAE

525. Kallstroemia intermedia Rydb. Illinois to Colorado, south to Missouri, Texas and Mexico. Maryland: Canton, on chrome ore piles. Sept. 27, 1953. Reed 32745.

526. Tribulus terrestris L. Naturalized from the Old World; Florida to Texas, north to southern New York, Ohio, Michigan, Illinois, Iowa and South Dakota. Maryland: Canton, on ballast. Sept. 1900, Oct. 1900 and Oct. 1902. C.C. Plitt. (Reed Herb.); on chrome ore piles. Sept. 27, 1953. Reed 32779 and 32814; Oct. 1953. Reed 32874; June 1954. Reed 33436; July 1954. Reed 34033; Sept. 1954. Reed 34394; Oct. 1954. Reed 35241; Sept. 1955. Reed 38221.

Additional species

JUNCEAE

527. Juncus marginatus Rostk. Florida to eastern Texas, north to western Nova Scotia, Maine, New Hampshire, Vermont, New York, Ontario, Ohio, Michigan, Missouri and Kansas. Virginia: Newport News, on chrome ore piles. Nov. 15, 1959. Reed 45875, 45875A and 45879.

LEGUMINOSAE

528. Cytisus scoparius (L.) Link. Native of Europe; naturalized from Nova Scotia to Virginia and southward; on Pacific Coast. Maryland: Canton, on pumice piles, from island off Italy. Aug. 20, 1963. Reed 65412.

CYPERACEAE

I wish to thank Dr. Alfred E. Schuyler, of the Academy of Natural Sciences of Philadelphia, for the identification of the following species.

529. Bulbostylis hirta (Thunb. in Hoffm.) Svensen. Native in Africa and Madagascar; occasional in Bahamas, Cuba and Venezuela. Maryland: Canton, on manganese ore piles. Aug. 18, 1959. Reed 44378. Annual, strigose-pubescent throughout; culms thicker and less wiry, 1.5-3 dm. high; leaves one-half length of the culms; inflorescences umbellate, the spikelets single, 5-9 mm. long, on long erect or horizontal rays; scales acute, hispid; achenes trigonous, obovate, 1.0-1.3 mm. long, 1 mm. wide, truncate at apex and with obtuse outer angle dull yellowish-gray, the surface prominently undulate; tubercle conic, borne on a slight elevation and usually deciduous; style very short, 0.75 mm. below the branches; stamens 3; anthers 0.75-1.0 mm. long. Svensen, Contrib. Ocas. Mus. Hist. Nat. Col. "de La Salle", 4: 11. 1946.

530. Cyperus ovularis (Michx.) Torr. Florida to Texas, north to SE New York, New Jersey, Pennsylvania, Ohio, Indiana, Illinois, Missouri and Kansas. Virginia: Newport News, on chrome ore piles. Nov. 15, 1959. Reed 45874.

531. Cyperus virens Michx. Florida to Texas, north to southern New Jersey, southern Indiana, southern Illinois, Missouri and SE Kansas. Virginia: Newport News, on chrome ore piles. Nov. 15, 1959. Reed 45894.

532. Eleocharis atropurpurea (Retz.) J.&C.Presl. Florida to Texas and Mexico, north to Georgia, Iowa, Nebraska and Colorado. Virginia: Newport News, on chrome ore piles in wet areas. Aug. 7, 1959. Reed 44067.

533. Fuirena coerulescens Steud. Native of Africa, Natal, Cape. Virginia: Newport News, on chrome ore piles, in wet areas. Aug. 7, 1959. Reed 44066 (dupl. in ANSP). Stems 20-40 cm. high, 3-angled; leaves glabrous; spikelets few to several, in a cluster; bracts and awns very shortly hairy or rough; perianth of 3 swollen scales, awn-tipped, alternating with 3 bristles, occasionally reduced or wanting; fruit net-veined, brown.

534. Fimbristylis autumnalis (L.) R. & S. Virginia: Newport News, on chrome ore piles. Aug. 7, 1959. Reed 44050.

535. Fimbristylis baldwiniana (Schultes) Torr. Virginia: Newport News, on iron ore piles. Nov. 15, 1959. Reed 45861.

536. Rhynchospora inexpansa (Michx.) Vahl. Coastal Plain, Florida to eastern Texas, north to southeastern Virginia and Arkansas. Virginia: Newport News, on chrome ore piles. Nov. 15, 1959. Reed 45895.

MATERIALS TOWARD A MONOGRAPH OF THE GENUS VERBENA. XXI

Harold N. Moldenke

VERBENA PERUVIANA (L.) Britton

Certain phrases in Linnaeus' original description point to V. incisa Hook., and it may well be that if/when his original specimen is examined it may reveal that the epithet "peruviana" actually belongs to what is now passing as V. incisa, while our present plant resumes its name of V. chamaedryfolia. Feuillée's description is as follows: "La racine de cette espece a environ deux pouces de longueur, sur trois lignes de largeur, elle se divise dès de collet en deux bras chargés de quelques fibres. La tige s'éleve jusques à neuf pouces, elle est épaisse environ de deux lignes, droite, parsemée d'un petit velu blanchâtre, qui rend sa couleur d'un verd blanchâtre. Les feuilles naissent deux à deux, opposées le long de la tige, elles ont quinze lignes de longueur, sur cinq lignes de largeur, terminées en pointes, dentelées dans leur contour, traversées dans leur longueur d'une côte arrondie au-dessous & sillonée au-dessus; cette côte donne de chaque côte des nervûres, qui s'étendent jusques à l'angle rentrant de la dentelure du contour des fetilles. Ces nervûres sont subdivisées en plusieurs autres plus petites, qui s'étendent sur le plan des fetilles, qui est parsemé d'nn petit velu blanc, ce qui represente les fetilles d'un verd blanchâtre. Les fleurs qui forment un bouquet à l'extrémité de la tige, sont des rosettes d'un beau rouge de sang, à quatre quartiers, chacun desquels a un angle rentrant dans le milieu de sa partie superieure; au centre de cette rosette, il y a un trôu par où cette fleur reçoit le pis-